

when the *change in ownership* takes place. Hence, the balance of payments statistics are likely to be more closely in accord with the general conceptual framework of national income statistics than the trade statistics in the *Trade and Navigation Accounts*. The trade statistics, in common with other countries' statistics of external trade, relate, by international agreement, to physical movements of goods.

The data for the balance of payments estimates of exports (including re-exports) are based on the trade statistics, but adjusted to accord more closely with the estimated timing of changes of ownership. The change in ownership of exports is assumed to occur on or after arrival at the overseas destination and estimates of receipts from exports are therefore obtained by lagging the monthly trade statistics. The estimates in the balance of payments statistics of private imports from non-sterling sources are derived independently, from exchange control records, and of imports by government departments from their own records. The estimates of imports from non-sterling areas are derived from the trade statistics, with timing adjustments applied to several commodities individually. There are also differences in coverage between the two sets of statistics (e.g. goods imported without change of ownership are included in the trade statistics but not in the balance of payments statistics).

For the balance of payments estimates, both imports and exports are valued for the most part *f.o.b.* ("free on board" i.e. excluding all freight and insurance charges) whereas the valuations of imports in the *Trade and Navigation Accounts*, which are related to the valuations for import duty, are valued *c.i.f.* (cost, insurance and freight). Thus the balance of payments estimates of both imports and exports exclude so far as possible all purchases of shipping and insurance services from non-residents (stated separately as imports or exports of services in the Blue Book table). They also exclude services provided by the British shipping and insurance industries, which are separately entered as parts of the gross domestic product.

The published balance of payments estimates do not provide more than a very summary classification by commodity groups⁽¹⁾. For any analysis of imports and exports requiring a detailed breakdown by commodities, the *Trade and Navigation Accounts* must be used. Thus the estimates of imports in the Blue Book tables relating to inter-industry transactions and to the import component of final expenditure (Blue Book, 1955, Tables 17-19) are based on the trade statistics with adjustments, necessarily very rough, to bring the totals into accordance with those used for balance of payments purposes. Similarly, the only adequate estimates of the volume of merchandise imports and exports are those derived from the trade statistics and the adjustment of these to a balance of payments basis is also very rough.

It should be noted that imports of finished equipment for the Forces supplied under the Mutual Defence Assistance Agreement with the United States, and under similar arrangements with Canada, are excluded from the estimates of international transactions. They are similarly excluded from the statement of Central Government transactions (see page 199) and thus from gross national expenditure.

(1) Six groups of imports are distinguished in the White Papers, but exports and re-exports are given only as a single total.

STUDIES IN OFFICIAL STATISTICS No. 3

NATIONAL INCOME STATISTICS
SOURCES AND METHODS

~~OP. 2100.85.05(3)~~

~~OP. 3100.85.03(2)~~

OP. 1100.85.01(3)

CENTRAL STATISTICAL OFFICE

NATIONAL
INCOME STATISTICS
SOURCES AND
METHODS



LONDON
HER MAJESTY'S STATIONERY OFFICE
1956

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Preface

Each spring since 1941, a White Paper has been laid before Parliament giving official estimates of national income and expenditure for the United Kingdom in the previous calendar year. The increasing elaboration of the estimates made it necessary, in 1952 and subsequently, to issue the statistics in two parts: a White Paper in the spring, providing summary statistics, and a fuller publication (the National Income "Blue Book") in the summer.

The present work is an attempt to describe in some detail how the estimates are built up and the system of ideas on which they are based. It is not in fact practicable to explain the derivation of the estimates so thoroughly that the reader would be in a position to reconstruct the national income estimates directly from the basic sources. The object is rather to describe the kind of material employed in such a way that the user may better appreciate the significance of the results and, in particular, may be able to judge the reliability of the component series and the extent to which practical or theoretical conclusions may reasonably be drawn from the figures.

A general point should be made about the use of terms. The phrase "national income statistics" is freely adopted here as a convenient expression to cover the whole body of statistics relating to national income, expenditure and output and to the social accounts, although, for reasons given in the book, it has not yet been possible to present estimates of the "national income" in the strict sense.

The estimates are compiled by the Central Statistical Office but it will be evident from the present volume that they are derived in great part from the statistical work of other departments. The estimates should be regarded as a co-operative enterprise of several branches of the Government statistical services. The Central Statistical Office acknowledges with gratitude the willing help of departments both in compiling the statistics and in preparing the present book. The compilation of the official estimates owes much, too, to the work of private investigators.

Frequent references are made in this volume to information derived from tax assessments, census of production returns and other returns of a confidential nature. In all such cases, the whole of the work of analysis and tabulation is undertaken by the department to which the original return is made; the information passed on to the Central Statistical Office is limited to aggregates which cannot be identified as referring to particular individuals or enterprises.

Publications

The latest official publications presenting the national income statistics are:

Preliminary estimates of national income and expenditure 1950 to 1955 Cmd. 9729 (March, 1956). The present volume was completed before the figures in this White Paper were available and the statistical examples quoted in the book relate to the Blue Book, 1955.

National Income and Expenditure, 1955 (H.M.S.O., September 1955). This is the most recent issue of the "Blue Book" and gives statistics for 1938 and for the years 1946 to 1954. The latest issue should be regarded as superseding earlier publications.

A summary of the statistics is also given in the *Annual Abstract of Statistics*.

Estimates for the years 1938 to 1945 appear in *The Statistical Digest of the War* (H.M.S.O., 1951)—one of the volumes in the *History of the Second World War, United Kingdom Civil Series*. Because of subsequent changes in definitions, and revisions of the statistics, some of the figures given here for 1938 to 1945 are not comparable with the current estimates.

Plan of the book

The first four chapters comprise a very general description of the statistics of national income and expenditure. Chapters I and II contain some discussion of the main concepts which the statistics are designed to measure. Chapter III is a summary of the sources from which the estimates are derived and of the way in which the figures are put together, discussing both the estimates at current prices and those at constant prices. Chapter IV describes how the Blue Book is arranged and explains the summary tables which appear at the beginning of the Blue Book.

The rest of the book takes the reader through the various sections of the Blue Book; each chapter covers one of the groups of tables concerned with one aspect of the economy. The present work should be regarded as a companion to the Blue Books themselves. The description relates to the sources and methods now in use. A continuous effort is made to improve the statistics and to develop new sources; it is, however, expected that the general structure of the estimates will remain constant enough to render the present volume useful as a reference work for some years. The definitions and explanations will no longer appear in the annual Blue Books although any important additions or revisions will be noted there.

The main object is to provide a guide to the Blue Books. The annual White Papers on national income and expenditure have hitherto consisted of the first seven summary tables in the Blue Books. The definitions, sources and methods used are generally the same; for certain items in the White Papers preliminary estimates for the most recent years must be made from sources which become available more quickly, but are less satisfactory, than those used for the Blue Books.

International comparability

During recent years much has been done to secure international agreement on the methods of measuring national income and expenditure and of presenting the statistics. The methods proposed for international use are set out in the United Nations publications *A System of National Accounts and Supporting Tables* (United Nations, 1953), referred to in this book as "*U.N. System of National Accounts*", and *Concepts and Definitions of Capital Formation* (United Nations, 1953). A very similar set of proposals has been drawn up for the Organisation for European Economic Cooperation—*A Standardised System of National Accounts* (O.E.E.C., 1952), referred to in this book as "*O.E.E.C. Standardised System*". The methods adopted in the United Kingdom are generally in accordance with the principles established in these reports; some minor differences in treatment are noted in the present book.

Central Statistical Office,
March, 1956.

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Chapter I

The Conceptual Framework of National Income and Expenditure Statistics

NATIONAL INCOME, PRODUCT AND EXPENDITURE

The national income is a measure of the money value of goods and services becoming available to the nation from economic activity. It can be regarded in three ways: as a sum of incomes derived from economic activity, which can be broadly divided for example between incomes from employment and incomes from profits; as a sum of expenditure, the main distinction being that between expenditure on consumption and expenditure on adding to wealth (or investment); or as a sum of the products of the various industries of the nation. These three aspects of the national income help to explain both the ways in which the statistics are normally presented and the ways in which the estimates are compiled. The present chapter describes the three methods of approach and the relations between them.

The analysis of national income statistics is not confined to the subdivision of the national aggregates into the various forms of income, product or expenditure. It extends to the compilation of accounts for particular groups within the nation—the sectors of the economy—and thus throws light on the transactions between the sectors. This extension leads to the method of analysis known as social accounting, and the use made of this method of presentation of national income statistics is described in Chapter II.

The aggregation of incomes

As a measure of the value of goods and services available to the nation, the national income is not simply an aggregate of all incomes. It includes only those incomes of residents of the nation, whether individual or corporate, which are derived directly from the current production of goods and services. Such incomes can be described as incomes of factors of production, or more shortly, as *factor incomes*. Other forms of income, for example retirement pensions or family allowances or receipts of private gifts, cannot be regarded as payments for current services to production; they are paid for out of factor incomes, through national insurance, through taxes, or by gifts, and are described as *transfer incomes*. Payments for which no goods or services are received in return (e.g. taxes) are *transfer payments*. The national income, being the total value of goods and services becoming available, cannot include both factor incomes and transfer incomes. It is more usefully measured by the sum of factor incomes.

One important form of income—interest and dividends—is susceptible to alternative treatments. It may be regarded as a factor income earned by the owner of capital, or as a transfer payment out of the factor income earned by the enterprise employing the capital. In the former case, the

national income would include interest and dividends as one item of factor income and *undistributed* profits of enterprises as another. In the latter case, which is the treatment adopted in the United Kingdom statistics, the *whole* profits of enterprises are regarded as factor incomes, and the payments of interest and dividends as transfer incomes paid out of these profits. A particular form of interest—interest on the National Debt—is regarded as a transfer payment for a different reason: namely, that having arisen almost exclusively from financing abnormal current expenditures (mainly in war) it cannot, without straining language, be regarded as corresponding with any currently produced goods and services.

The aggregation of products

The sum of domestic factor incomes thus measures the total output of goods and services within the nation, described as the domestic product. Two points should be noticed. Firstly, the domestic product can be regarded as the sum of the products of industries or productive enterprises within the nation, but it is the sum only of the factor incomes earned in each industry or enterprise. It is essentially a sum of the values added at each stage of production. The value of the product of the weaving industry, in this sense, consists of the wages, salaries and profits of the weavers, but it does not include the value of the yarn used in production, and so is not equal to the selling value of the cloth. Secondly, it follows that the domestic product includes only the factor incomes arising *within* the nation; it does not include the value of imported goods and services, which are part of the domestic products of other countries.

Domestic and national income and product

The national income of the United Kingdom is the income of residents of the United Kingdom⁽¹⁾. Most of it arises from production within the United Kingdom. But some income accrues to United Kingdom residents as a result of economic activity abroad, or property held abroad, while some income arising within the United Kingdom is paid to non-residents. A distinction is thus drawn between the *domestic* income—the factor incomes arising within the country—and the *national* income, which consists of domestic income *plus* the net income received from abroad. The same distinction applies to the definition of product: the domestic product describes the total of domestic factor incomes, and the national product describes the domestic product *plus* net income from abroad.

The aggregation of expenditures

The national income has been defined as the value of goods and services becoming available to the nation. Hence it can be measured not only as a sum of incomes but also by summing expenditures on these goods and services.

National expenditure can be broadly divided between consumption and adding to wealth (or investment). Consumption is taken to comprise all kinds of current expenditure on goods and services, whether by individual consumers or by collective bodies including the government. Adding to wealth is taken to mean the net increase in the stock of capital assets.

(1) For a description of what is meant by residents see page 15.

Assets in this sense comprise both physical assets—the stock of factories, machinery, houses and so on—and financial assets in the form of holdings of securities and other claims and in the form of currency or bank deposits, including foreign exchange. But every financial asset or claim is necessarily a liability to someone else (including currency which is for convenience regarded as a liability to the issuing authority). Hence *within the nation* financial assets must be taken to be offset exactly by financial liabilities. Adding to wealth, or investment, by the nation as a whole thus means net additions to the nation's stocks of physical assets together with any net addition to the total of claims by residents of the nation on residents of other nations (in the form of gold, foreign exchange, holdings of shares in non-resident enterprises, trade credits, etc.).

Just as the national income is not simply an aggregation of all incomes, and the national product is not an aggregation of the selling values of all goods sold, so the national expenditure is not the aggregation of all purchases. It is defined so as to exclude the transactions that occur when a commodity (such as yarn for weaving) or a service (such as the carriage of yarn from spinner to weaver) is sold for the production of some finished commodity (a shirt). This involves drawing a distinction between final and intermediate purchasers and transactions. The shirt is a final product; its purchaser—the consumer—is a final purchaser, and his purchase in the retail shop is a final transaction and part of final expenditure. The transactions conducted between the spinner and the weaver, and between the weaver and British Railways, are intermediate transactions. All purchases of goods and services for use in current production and subsequent resale are intermediate purchases. Goods added to stock between the end of one accounting period and the next are, however, an exception; additions to stock must be regarded as additions to wealth within the accounting period and therefore as final expenditure. To avoid duplication, only final purchases are included in the aggregate of national expenditure.

In the simple case of the shirt this distinction gives rise to little difficulty. It is less easy to determine the boundary between final and intermediate purchases in considering transactions of the government or purchases of capital assets. The solutions adopted are described later.

The treatment of imports and exports

National expenditure is thus another aspect of the national income and national product. All three concepts are ways of regarding the total value of goods and services becoming available. In a closed economy, with no foreign trade, the national product and national expenditure would be different aspects of the same collection of goods and services. In an open economy, identification of the specific goods and services is rendered more difficult because many final goods contain imported material; final expenditure on such goods thus generates income and product not only in the home economy but also in the foreign country from which the imported material has been bought. Similarly part of the national product is sold to other countries. National expenditure and national product cannot therefore be identified as a tangible collection of goods and services.

National expenditure, as was said above, may be regarded as comprising the nation's consumption and its investment, including as investment additions to its wealth overseas. One form of investment is, therefore, an excess

of exports of goods and services over imports, which is necessarily accompanied by an increase in the nation's wealth (except where international transfers occur, a case dealt with below); this increase in wealth, or net foreign investment, in the form of increased holdings of foreign exchange or other financial claims on foreigners, or perhaps in the form of increased holdings of physical assets abroad, is a part of national expenditure as defined. In the reverse case, an excess of imports is financed by a draft on the nation's wealth, or net foreign disinvestment.

From the point of view of this discussion, income received from profits or property abroad is regarded as equivalent to exports; it is another means of acquiring financial assets. Income paid abroad is equivalent to imports. Thus:

exports of goods and services
 plus income from abroad
 = imports of goods and services
 plus income paid abroad
 plus net investment abroad

In estimating national expenditure, it is not in fact practicable—except by rather elaborate methods—to eliminate the import content from each kind of final expenditure (e.g. from consumers' expenditure). The statistics from which the estimates of consumption and investment are derived relate to the total value of the final goods and services concerned, including their import content, and the estimate of national expenditure is arrived at by subtracting from this total value of final products the total value of imported goods and services.

Thus the national expenditure is equal to total expenditure by residents of the nation on all final goods and services, including their import content—a total described as domestic expenditure—plus total exports and income received from abroad less total imports and income paid abroad. It is identical with the value of goods and services becoming available as a result of the nation's economic activity, and thus with the national income and national product.

International transfers, or gifts

So far, only a passing reference has been made to international transfer payments, e.g. gifts. The most important of these are inter-governmental gifts (such as the economic and defence aid received by the United Kingdom from the United States), but there are also private donations such as remittances by emigrants to their relatives at home. It would not be unreasonable to treat such gifts as part of the "national income"; they clearly add to the nation's ability to buy goods and services (unlike transfers or gifts between members of the nation). It may be said that the direct effect of such gifts on national income and expenditure is the same as the effect of property income from abroad, which is included as a component of the national income. It is, however, more appropriate to treat the national income as a measure of the goods and services becoming available to the nation through its own economic activity. This limitation allows the inclusion in national

income of income from abroad, which is a measure of the yield of productive assets held abroad; it would not allow the inclusion of international transfers of which the value cannot be described as a measure of the receiving nation's economic activity.

Such gifts, of course, add to national expenditure by increasing consumption or national wealth (e.g. by increasing the foreign exchange reserves). The equality between national expenditure and national income is preserved by setting the value of international gifts received (less gifts made to other countries) against expenditure in the form of additions to overseas assets. The specific consumption or increase in specific forms of wealth resulting from gifts is included in the detailed statistics of national expenditure, but is offset by a corresponding reduction in national wealth.

The identity of national income, product and expenditure

The relation between the three identical aggregates may be summarised as follows:

Relation between national income, product and expenditure

<i>Income or product</i>	<i>Expenditure</i>
Domestic factor incomes = domestic product	Consumption (including its import content) <i>plus</i> Adding to domestic wealth (including its import content) = Domestic expenditure
<i>plus</i> Net income from abroad	<i>plus</i> Exports of goods and services (including their import content) and income from abroad. <i>less</i> Imports of goods and services and income paid abroad
National income or product	= National expenditure

The identities between the aggregates are, then, tautologies resulting from the definitions, not propositions about economic behaviour. Many of the conceptual problems that arise in defining these aggregates and in classifying their components can be solved only by arbitrary or conventional methods. It is not suggested that the methods applied in the official statistics for the United Kingdom are the only "correct" solutions, nor indeed that they are the best solutions at all times and for all purposes. The concepts that the statistics are designed to measure are themselves abstractions from the complicated realities of economic life, and the statistics may often appear remote and artificial until experience has been gained in their use as instruments for interpreting real economic situations.

The depreciation of assets

To each of the three identical aggregates there corresponds a "gross" and a "net" concept. The process of production and the passage of time involve a gradual using up of the nation's productive assets—its buildings

and machinery. This use of capital, or depreciation, should clearly be taken into account in calculating the net annual additions to the nation's wealth, and should therefore be regarded as a deduction from income, product and expenditure—from income and product, because the using up of assets is a necessary cost of earning the income or producing the output (analogous with, although less easily measured than, the cost of raw materials); from expenditure, because depreciation of capital represents a reduction in the value of the national wealth. For three reasons, however, the main aggregates are shown before deducting any such provision. Firstly, the replacement of physical assets can be, within limits, postponed: hence it is useful to measure the total supply of goods and services becoming available, even though to preserve the nation's assets intact some part of the total must be allotted to replacement (or provisions for future replacement) of existing assets. For some purposes, it is more useful to know the total output of capital goods than to know only the net increase in the stocks of such goods after allowance for depreciation. Secondly, estimates of depreciation, or the use of capital, can be made only on the basis of convention or of some arbitrary principle of calculation. They do not represent actual transactions and are thus of a different nature from most of the other estimates in the national income statistics. Thirdly, and more important, (for reasons described in more detail on page 15) it is not at present possible to show estimates of the current use of capital which have real meaning in the system of national income statistics, although this may be possible in the near future. Hence the statistics at present published for the United Kingdom are confined to measurements of "gross" income, product and expenditure, before making allowance for that part which should be allotted to the maintenance intact of the nation's capital assets. To preserve the real significance of the expressions national income, national product and national expenditure, to none of which appropriate measures can be applied at present, the terms used to describe the present estimates are "national income and depreciation", "gross national product"⁽¹⁾ and "gross national expenditure".

Aggregate personal incomes

Another commonly used aggregate of some importance is the total of *personal incomes*. It has been pointed out that the national income is defined to represent the aggregate of incomes arising from current production of goods and services *plus* net income from abroad. It is, however, convenient also to measure the simple aggregate of all incomes accruing to persons resident in the nation, whether derived from current production or by transfer of income from others through taxation or through receipts of rent, interest and dividends. This aggregate is greater than the national income *plus* depreciation to the extent that such transfer incomes from public authorities (which include interest payments as well as national insurance benefits and similar grants) are included in personal income as well as the personal incomes which are taxed to provide them; it is smaller than the national income to the extent that trading enterprises of all kinds retain some of the income

(1) The gross national product is gross only in the sense that no deduction is made for depreciation. It is still "net" in the sense that it is free of duplication, including only values added in production. The gross national product should not be confused with "gross output" as defined, for example, in the census of production, where gross output includes the value of purchased materials.

arising from current production (or from abroad) for their own investment or for paying their own taxes.

Total personal incomes may be greater or less than national income *plus* depreciation, and changes in personal income may also be significantly different from changes in national income.

FORMS OF INCOME

It was said at the outset that the national income includes only those incomes, whether individual or corporate, which arise from economic activity. Except income from abroad, such incomes are those arising from domestic production of goods and services and are described as factor incomes, since they are regarded as the earnings of factors of production. The classification of factors of production presents a good many difficulties in economic theory. Economic activity, or production, results from the combination of factors of production in various ways. The classification of factor incomes is dictated by convenience rather than by purely theoretical considerations.

In the broadest sense, factor earnings may be described as earnings from work and the use of property, or as employment income and profits. Employment income includes wages and salaries and the pay of the Forces; it is taken to include also certain supplements to employees' incomes such as contributions made by employers to national insurance and to superannuation schemes. The term profits includes all surpluses from trading, that is, any excess of operating receipts over operating expenses, by any producing enterprise whether publicly or privately owned. For traditional and statistical reasons, however, "rent"—the operating surplus derived from the ownership of land and buildings—is separately classified, although it differs little from any other form of profit.

The distinction between employment incomes and profits cannot be made in the case of incomes of persons working on their own account or in partnership; such incomes are therefore separately classified as income from self-employment. In practice, it is possible to distinguish profits only in the case of "impersonal" enterprises. These can be subdivided between privately owned corporate enterprises (companies), the public corporations (chiefly the bodies administering the nationalised industries) and other publicly owned trading enterprises.

The forms of income comprising the national income, as presented in the United Kingdom statistics, are therefore:

Income from employment—

wages

salaries

pay of the Forces

supplements to employment income (described as "employers' contributions")

Income from self-employment (a mixture of employment income and profits)

Profit incomes from domestic production, earned by—

companies

public corporations

other public enterprises

Rent

Property income from abroad

less Property income paid abroad

The total of these incomes is the national income. But the classification is not one that allows any precise division between the earnings of different kinds of factors of production.

Definition of production and the extent of imputation

The problem then arises of delimiting the field of "production" or economic activity. In the widest sense, production might be taken to cover all activities resulting in useful goods and services. Such a definition would raise great difficulties of measurement. The domestic services of housewives, for example, and the week-end carpentry of householders, are not exchanged for money; they could be given only an assumed value which would necessarily be very arbitrary. In computing a money measure of the nation's production, it is most convenient to confine attention to activities yielding goods and services which can be given a value which is not wholly arbitrary. This means substantially those goods and services which are in fact exchanged for money.

This is already a very broad definition—much broader than the sense in which "production" is often used. It includes not only the output of physical commodities from extractive and manufacturing industry but also the activities of transport and communication, wholesale and retail distribution, the other service industries, and the work of civil servants, local government employees and the Forces.

In practice, the definition used in the United Kingdom statistics extends a little beyond this to cover certain kinds of activity which are not actually exchanged for money. The principal example is the value received from owner-occupied houses. No money actually passes between the owner and the occupier of a house when they are the same person, but a valuation of the services of the building is nevertheless made in the process of reckoning the owner's liability for income tax, based on an estimate of the net income which could be obtained (or could have been obtained at some past date) by letting the building commercially. A figure derived by the same kind of method is included in the reckoning of the national income. In effect the owner-occupier is divided into two separate transactors; it is supposed that as owner he lets the building to himself as occupier for a certain rent. This process of inventing a transaction is known as "imputation".

Imputation is confined to the very small number of cases where a reasonably satisfactory basis for the assumed valuation is available. In general this can occur only where the imputed transactions in question are closely similar to a group of transactions in which money actually passes. Hence the flow of goods and services which contribute to the national income and product is limited to those goods and services which are customarily exchanged for money. Thus in the case of owner-occupied houses, a basis of valuation can be obtained because there is a large number of commercially rented buildings. Employees' remuneration in kind (e.g. free or cheap coal for miners, food and lodging for domestic servants and the Forces) is also included in the national income. Farm produce consumed by the farmer and his own household is included at an imputed value. Finally, a value is imputed for the

services of certain buildings owned and occupied by public authorities (e.g. offices). These are the only significant cases of imputation in the United Kingdom statistics of national income and expenditure. To omit some of these imputed items entirely might lead in some circumstances to misleading conclusions. For instance, if the income in kind of the Forces were omitted from personal income and expenditure, then a substantial increase in the size of the Forces would in itself appear to cause a substantial fall in consumers' expenditure. If a large number of rented houses were sold to their occupiers, the omission of imputed rent would lead to an apparent decrease in national income and product due merely to a change in ownership unrelated to any real decrease in goods and services.

It should be observed that whenever an income is imputed, a corresponding expenditure must simultaneously be recorded. The inclusion in the owner's income of the annual value of an owner-occupied house must be balanced by an imagined equal payment of rent by the owner-occupier *qua* occupier. The inclusion in the "income" of domestic servants of free food must be balanced by an imagined equal "expenditure" by domestic servants on food. Both aspects of the imaginary transaction must be recorded in order to preserve the identity between income, product and expenditure.

Although the statistical arguments against extending the scope of imputation seem overwhelmingly strong, it must be admitted that the restriction of the estimates substantially to money transactions limits their significance in certain contexts. For example, the fact that the unpaid activities of housewives are excluded from the national income will vitiate in some degree any comparison between different countries or different periods if the amount of work done by housewives is substantially different. Thus the bringing into industry of many housewives during the war caused a substantial increase in the national income and product; no allowance was made for any accompanying loss of housewives' services in the home.

Another example may be found in the treatment of consumers' durable goods such as motor cars, washing machines or pianos. It would be theoretically possible to include in "production" the services rendered by such goods over the period (often many years) of their useful lives. In this case the owner of these goods would be regarded as a producer and it would be necessary to impute a "hire-charge" to himself as user in the same way as for owner-occupied houses. Although such goods are sometimes rented, there is no proper basis for estimating such a charge, and no imputation is made. The "boundary of production" is drawn where the motor car is handed over to the buyer, and in effect its consumption is supposed to take place immediately. The disadvantages of this procedure are obvious. In wartime, for example, people may reduce their purchases of durable and semi-durable goods (e.g. clothing) to a comparatively low level without reducing their actual use of such goods. The wearing out of existing goods is not fully replaced. In such circumstances, the figures for "consumption", being restricted to new acquisitions, may give a very misleading impression of the reduction in the consumers' real standard of life. These are among the limitations which should always be remembered in interpreting national income statistics.

THE CLASSIFICATION OF FINAL EXPENDITURE

Four groups of economic entities which buy goods and services produced in the United Kingdom may be distinguished:

- United Kingdom private households,
- United Kingdom producers, or trading concerns,
- United Kingdom public authorities, and
- non-residents of the United Kingdom.

Consumers' expenditure

Private households (or individuals) buy all sorts of things—food, hair-cuts, clothing, motor cars—for their own private use and enjoyment. Since it was decided, for the reasons given above, that (except for houses) it is impracticable to measure the services rendered by durable consumers' goods over their useful lifetime, the value of consumers' expenditure must be computed at the point where the goods and services are handed over to the consumer. The purchase of these goods and services constitutes "personal expenditure on goods and services" or, for short, *consumers' expenditure*. The acquisition of houses and land is not included in consumers' expenditure; the owner-occupier can be regarded as a producer who sells the services of his house to himself at an imputed rent. The imputed rent is included in consumers' expenditure.

Producers' purchases

Next may be considered the purchase of goods and services by *producers*, whether companies, unincorporated businesses, public corporations or public trading bodies. Most such purchases are of goods and services for use in the course of production, e.g. the flour bought by bakers for use in the production of bread. In such cases the purchase is regarded as an intermediate and not as a final purchase (as pointed out on page 3). The ultimate purpose both of producing the flour and of using it in the bakery is the production of bread for sale to the consumer; it is only at this stage that final expenditure is measured. Although these intermediate transactions are eliminated in estimating the national aggregates of final output and expenditure, the study of the changes in inter-industry transactions in intermediate goods and services is of great importance and interest. Some of these transactions are shown in tables in the Blue Book which display the inter-relationships between the outputs and inputs of the principal industries and the effects on different industries of changes in final expenditure.

Capital formation

Not all purchases of goods and services by producers, however, are for use in current production. Firstly, goods of the same kind as the materials used in production may be bought in excess of the amount currently used. In this case the producer's stocks of material, his assets, will rise; he is adding to wealth or performing investment, or "capital formation", in stocks. Secondly, the producer may buy buildings, machinery, vehicles or plant which will give services to production over a number of years. This form of expenditure is described as *fixed capital formation*. To the extent that it exceeds the wearing out, or depreciation, of existing assets it represents an addition to wealth and is described as net fixed capital formation. As already

pointed out, however, (on page 6) this net concept is not at present shown in the official United Kingdom statistics. For present purposes, therefore, only gross fixed capital formation is considered.

Both these forms of expenditure by producers, capital formation in stocks and in fixed assets, form part of gross national expenditure because they add to wealth. By definition all capital formation is made by producers, since consumers are assumed in effect to use up goods and services as soon as they buy them. Thus they cannot accumulate stocks and the existence of durable consumers' goods other than houses is neglected. Houses are regarded as productive assets, the house owner being therefore a producer; the purchase of new houses forms part of fixed capital formation.

Public authorities' expenditure

Another group of purchases of goods and services is formed by the expenditure of *public authorities*, that is, the Central Government and local authorities. In the course of organising collective services, e.g. defence, justice, health and education, the public authorities purchase the services of their salaried officials, and many goods such as munitions, office furniture, hospital equipment and text books. The services to the public which result from these purchases are rendered free, or nearly free, and so do not appear in consumers' expenditure. Nevertheless it is clearly desirable that, in reckoning the national income, the work done by teachers, judges, etc., as well as by those who make the necessary equipment for their work, should not be excluded. This may be achieved by regarding public authorities as collective bodies providing free public services for collective "consumption" by the community. Since these services of public authorities are not sold, they can be valued in money only by adding up the money spent by the public authorities in buying the services of teachers, health service employees, the Forces, and other public servants, together with the materials used (blackboards, the rent of buildings, drugs, military equipment, paper, etc.).

In the same way, public authorities' expenditure on fixed assets, such as buildings or fire engines, is part of national capital formation (although no account is taken, because of lack of information, of any additions to their stocks of consumable stores apart from those held by government trading enterprises). It should, however, be noted that—with certain minor exceptions—no purchases of military equipment, however durable, are regarded as capital assets; nearly all defence expenditure is treated as current expenditure—as "consumption" in a wide sense.

A more difficult problem is the treatment of government services which are services not to the citizens as ultimate consumers (e.g. of food, defence or justice) but to producers, e.g. advisory services for industry, or that part of the expenditure on the maintenance of roads which might be regarded as serving industry. It has been argued that services of this kind should be regarded as intermediate products and so excluded from final expenditure. This point of view is not adopted in the United Kingdom statistics. The complications involved in the proposed treatment are not considered to be worth while.

The argument that some government services are of the nature of "intermediate" rather than "final" goods may indeed be pressed further. Although it appeals to common sense to regard publicly provided education, or parks

and museums, or the health service as final products comparable with similar goods and services normally paid for in cash, yet the case is not so clear with some other government activities. For example, the services of civil servants engaged in drafting legislation might well be regarded as essentially an "intermediate" service required for the functioning of the present economic system. The whole apparatus of defence might be regarded in the same light. If this view were accepted, a large proportion of government activity would not feature directly as final output or final expenditure at all, although it might be considered as part of the "cost of production" of all other goods and services. In practice, however, there seems to be no generally acceptable way of drawing the line between "final" and "intermediate" forms of government activity, and all government activity is therefore treated as "final" goods and services. Sufficient detail is provided to enable the reader to distinguish between those activities which he might wish to regard as genuine "final expenditure" and those which he would prefer to treat as "intermediate", or as what have been described as "regrettable necessities".

Exports and imports

The treatment of international transactions in the estimation of national expenditure has already been described on page 3.

To sum up, the categories of final expenditure are classified as follows:

- Consumers' expenditure on goods and services
- Domestic fixed capital formation (gross or net)
- Capital formation in stocks and work in progress
- Current expenditure by public authorities on goods and services
- Exports of goods and services and income from abroad
- less Imports of goods and services and income paid abroad
- the total being equal to National expenditure (gross or net).

VALUATION PROBLEMS: MARKET PRICES AND FACTOR COSTS

The various forms of final output, considered from the point of view of the purchasers, are most appropriately valued at the prices which the purchasers actually pay (the import content being deducted as a single total from the sum of the various expenditures). The aggregate value of the goods and services consumed or added to the nation's wealth will not in general, however, be equal to the sum of factor incomes arising from production. The final expenditures as recorded cover any *taxes on expenditure* (broadly, what are generally known as indirect taxes such as Customs and Excise duties) imposed on the goods and services concerned. Such taxes on expenditure are paid at one stage or another by the producers or merchants (e.g. import duties paid by the importer, purchase tax paid by the wholesaler). Again, the prices paid by the final user fail to cover the total factor incomes if the producers receive a government *subsidy* (e.g. the subsidies, deficiency payments or guaranteed prices paid in respect of many foodstuffs). Such taxes and subsidies enter into the final or "market" price paid by the purchaser. But taxes accrue to, and subsidies are paid by, the government not the producer, and cannot be identified with any specific goods or services which the government provides or receives in return. Thus although indirect taxes

form part of producers' costs, they do not form part of the income of factors of production. Similarly, although subsidies form part of the income of factors of production, they do not form part of the prices which the final purchaser pays.

There are therefore two different ways of valuing national expenditure and the national product: at *market prices*, including all taxes on expenditure (subsidies being regarded as negative taxes), or at *factor cost*, representing only the sum of the incomes of factors of production. The two methods lead to different totals which may also show different movements over time.

In the official statistics for the United Kingdom, the national product is expressed at factor cost in the sense that it is the sum of domestic factor incomes *plus* net income from abroad. The components of national expenditure are shown at market prices, the basis on which the statistics are naturally compiled. Total national expenditure is shown at factor cost, the estimate at factor cost being arrived at by deducting taxes on expenditure from, and adding subsidies to, the estimates of expenditure at market prices. National expenditure at factor cost is thus identical with the sum of domestic factor incomes *plus* net income from abroad, and with national product at factor cost.

Some authorities prefer to express the aggregate national product and national expenditure at market prices⁽¹⁾. This can easily be done from the United Kingdom statistics by adding taxes on expenditure to, and subtracting subsidies from, the aggregates shown at factor cost.

Both methods of valuation have their uses and both are well established by tradition. Broadly speaking, the justification of market prices is that they represent the relative value to the individual of different goods and services, on the usual assumption that the price paid for each commodity is proportional to its marginal utility. Thus an increase in the domestic product at market prices, other things being equal, can be regarded as indicating *prima facie* an increase in the "economic welfare" of the community. On the other hand, valuation at factor cost displays the composition of national product or expenditure in terms of factors of production employed, the contributions of the factors being measured by the incomes that they receive. Valuation at factor cost may therefore be useful in connection with problems of the allocation of resources. The choice between the two presentations thus depends on the purpose for which the statistics are used. Either method can of course be adapted to the measurement of changes in terms of constant prices.

Although no serious statistical problem is involved in estimating the *total* of taxes on expenditure or subsidies, their allocation between the different industries contributing to the national product, and between the different goods and services making up national expenditure, presents substantial difficulties of estimation in certain cases. It is not considered necessary in the United Kingdom statistics to show national product except as a sum of factor incomes; therefore the problem of determining the incidence of such taxes and subsidies on each industry does not arise. It is, however,

⁽¹⁾ This is the case in the United States (where indirect taxes and subsidies are of much less importance than in the United Kingdom). The O.E.E.C. *Standardized System* (page 13) also says "it is more useful to reserve this abbreviated expression (gross national product) for the gross national product at market prices."

necessary to allocate the taxes and subsidies between the different categories of final expenditure; since the incidence of some of these taxes (e.g. the tax on petrol used by business, or local rates on business premises) is spread in indeterminable proportions over most goods and services, the adjustment to factor cost cannot be carried through in full detail and is necessarily somewhat arbitrary even for the broad groups in which final expenditure is shown.

The limitations of welfare and productivity measurements

The justification of each method of valuation is subject, however, to many qualifications which seriously limit the significance of the conclusions to be drawn from the statistics. Valuation at market prices would provide a measure of changes in "economic welfare" if final products whose market prices are equal contributed equally to welfare. But the presumption of any such equality is clearly open to doubt when any actual comparison is attempted between different periods or countries. It is distorted by differences in the distribution of income, by differences in taste, by the artificialities introduced by price control or rationing, and by the difficulty of comparing the increments of "welfare" resulting from equal increments of government expenditure, consumers' expenditure, and investment. Hence if any considerable change occurs in these elements of the economic structure, it is difficult to conceive of statistics of national income affording in any precise sense a measure of economic welfare.

In recent years national income statistics have been more widely used than in the past as measures of national productivity, or for problems connected with the distribution of resources. But the factor cost measure, which is relevant to the consideration of these problems, also has important limitations. The relative rewards of factors of production in different industries or at different times are influenced by the degree of monopoly and by limitations on the free movements of factors. Moreover the existence of taxes and subsidies placed on the use of particular factors of production (or on commodities incorporating the factors) necessarily influences their relative cost to the producers employing them and thus the distribution of factors between different uses.

These qualifications are introduced to show that the meaning to be attached to the aggregate of national income, product or expenditure is essentially arbitrary and limited. The comprehensiveness of the aggregates is limited by convenience and convention; the valuations placed on goods and services, even if adjusted to constant prices, are monetary values determined in imperfect markets and do not provide precise measures of changes either in welfare or in productivity. Nevertheless, the significance of the broad trends shown by the aggregates is often unmistakeable. Moreover, the more immediate interest of national income statistics lies in the detailed analysis of transactions; although only limited significance can be attached to the aggregates, yet the components from which these aggregates are built up are (for the most part) actual money flows representing the main currents of economic activity. This emphasis on the relationships between the various parts of the economy is the basis of the "social accounting" approach, described in the next chapter.

THE DEFINITION OF THE NATION

So far, little indication has been given of what is meant by the "United Kingdom", in describing the way in which its national income is compiled. Broadly, the national income, product and expenditure are the income, product and expenditure of those persons, enterprises and institutions which are regarded as United Kingdom residents. These are not the same as the income and product originating, or the expenditure occurring, within the geographical boundaries of the United Kingdom. Some of the implications of the treatment adopted are described later (pages 338 to 340). For the moment, two important points may be noted. In the first place, United Kingdom residents include some persons whose economic activity is in fact carried on abroad. Thus the "United Kingdom" product includes the activity of ships and aircraft owned in the United Kingdom and of members of the Forces, and government officials, stationed abroad. Similarly, work done by members of other countries' Forces, or staffs of embassies stationed in the United Kingdom, is not included. Secondly, a more difficult problem arises in applying criteria of residence to business enterprises which operate abroad. The principle followed here is to regard such enterprises as divided into two parts (a division which may or may not conform with the internal organisation of the enterprise): an "overseas branch" earning a profit on overseas operations, which accrues to a "head office" in the United Kingdom. Hence the flow which enters the national product (but not the domestic product) is the income accruing from foreign operations, whether in fact remitted or not. It is only the profit of the "overseas branch" which enters the United Kingdom's national product; the rest of its net output is excluded.

"MAINTAINING CAPITAL INTACT"

The national income may be measured by the nation's consumption *plus* any net increase in its assets or wealth. The measurement of changes in the nation's wealth raises two problems, rather similar in character, which cannot be avoided in even the most summary presentation of the statistics. These are the problems of valuing the use of fixed assets, or depreciation, already referred to on page 5, and of valuing the change in consumable assets, or stocks—the problem of "stock appreciation".

Depreciation

It was pointed out that the national income and the change in wealth cannot be measured unless allowance is made for the gradual wearing out by use and obsolescence of the nation's fixed assets; and that the estimates given in the United Kingdom official statistics at present refer only to "gross" concepts which do not purport to allow for the cost of using capital assets. The difficulty arises from the fact that the actual cost of using fixed capital obviously cannot be measured directly; the "transaction" which it represents must be regarded as an imputed transaction.

In business accounting, this unrecorded element in current costs of production is met by provisions for depreciation. Such provisions are, however, nearly always made by reference to the original cost of the asset; that is they provide for the setting aside during the assumed life of the asset of the original money outlay. They are thus comparable to the amortisation of a debt rather

than to a measure of the extent to which the assets are used up in each year. This is, indeed, the only approach possible if precise figures are required and in long periods of stable prices would be adequate for measuring the net national income.

It is, however, essential in reckoning net national income and the change in national wealth that the current charge for the use of assets should be calculated in terms of *current* prices which are related to the current value of resources used in production. During or after a period of substantial changes in prices, the provisions made by business accounting thus become inappropriate for national income measurement. Valuation at current prices is the only way of securing internal consistency between the cost of using capital and other current costs of production; it is also the only way of treating consistently the uses of different kinds of assets⁽¹⁾.

Stock appreciation

The second problem arises in measuring the change in national wealth represented by changes in stocks⁽²⁾. The concepts adopted for the measurement of national income and wealth require a measure of the change in stocks valued in the same way as other transactions in the system, that is at the prices of the period concerned. Business accounting methods, which produce most of the statistics actually used for reckoning incomes and changes in stocks, adopt a convention which results in a rather different valuation in times of substantial changes in prices. In this case, however, it is possible to make a rough adjustment for the difference between business accounting methods and the objectives of national income measurement.

In the measurement by normal accounting methods of the profit earned by a trading enterprise in a given period, the stocks taken over from the preceding period are treated as a purchase, while the stocks handed on to the following period are treated as a sale. As a result, any increase in the value of stocks between the beginning and end of the period will enter into the accounting profit, along with the excess of sales to outsiders over the sum of purchases from outsiders, payments to labour and depreciation charges. Expenditure during the year in purchasing materials is allowed as an operating expense only to the extent that the money value of stocks and work in progress at the beginning of the year is maintained. Any increase in stocks resulting from purchases in excess of this will appear as a form of investment.

If this definition of profit were accepted in national income measurement, it would mean that any increase over a year in the money value of stocks would be treated as "adding to wealth", even if the physical volume of stocks remained constant. But for a measurement of income and stock changes consistent with the other flows dealt with in the system of national income statistics it is desirable that "additions to wealth" should include only *real*

(1) A fuller treatment of the problem of measuring the use of fixed assets will be found on pages 273-274. Certain statistics are available (and given in the notes to the Blue Book) of statutory allowances for depreciation for income tax purposes. These allowances, like those made for business accounting, are related to original cost. They are also subject to substantial changes from year to year with the introduction, variations in the rates, suspensions, and restoration of initial allowances and with their replacement by investment allowances. Thus the relation of the statutory allowances to the economic concept of the current cost of the use of assets varies from year to year.

(2) A fuller treatment of this problem, and of the methods of dealing with it, will be found on pages 309-313.

additions to wealth arising from the activities of the period; they should include any increase in the physical volume of stocks, but not an increase in the money value of stocks due to a rise in the prices at which stocks are valued. The effect of normal accounting methods is that in times of rising prices the money value of stocks increases by more than the physical volume valued at the prices of the year, and book profits thus incorporate an amount which from the present point of view must be regarded as a capital gain, not as income. The difference is described as "stock appreciation". In reckoning the national income, product and expenditure, the estimated amount of stock appreciation is subtracted from the estimate of incomes and stock changes derived from accounting data. The stock change, after this adjustment, is described as the "value of the physical increase in stocks". If prices are rising, stock appreciation is positive; if prices are falling, it is negative.

These estimates of stock appreciation are only hazardous approximations and cannot be presented in much detail. Hence the adjustment is shown only for the major sectors of the economy. Further, the accounting data of profits, unadjusted, are more appropriate for many kinds of economic analysis than the adjusted data which represent more nearly the national income concepts. The unadjusted data are the "profits" as normally reported and have their influence on business policy; for interpretation and prediction of trends, the unadjusted data may prove more valuable than the adjusted estimates. Hence, wherever possible, both sets of data are provided.



Chapter II

The Framework of Social Accounts

The main object of Chapter I was to explain the general significance of the concept of total national income and the relationship between the three ways of regarding it—as a sum of incomes, of expenditure or of products. It follows that the statistics can be presented in the form of a balancing account, showing for example the various kinds of national expenditure in one part of the table, and the forms of income in the other, the two parts adding to the same total.

A natural extension of this method of presentation is to show balancing tables, or accounts, summarising the transactions of particular groups or entities within the economy. Thus the economy can be divided into branches or sectors and a set of accounts presented for each. The accounts for a sector represent a significant grouping of transactions displaying one aspect only of the economic activity of the nation. They thus stand between the accounts of aggregate national income and expenditure on the one hand and, on the other, the accounts which are (or could be) drawn up by enterprises or individuals for their own purposes. The organisation of the statistics into a set of social accounts has now become normal practice and is the framework on which is built the presentation of the statistics for the United Kingdom in the Blue Book. The principal advantage of such a framework is that it displays the mutual relations between the different parts of the economy, and the different forms of economic activity, in a way which the statistics of aggregate national income and expenditure alone cannot do.

The division of the economy into sectors is a primary feature of a social accounting system. There are various ways in which the economy may be divided. The essential elements, however, are: a "*personal*" or household sector serving primarily to display the transactions of members of the community in their capacity as final consumers; a sector of which the accounts record the transactions of *productive enterprises*, whether publicly or privately owned; a sector for the transactions of the organs of *government*, both central and local, with the rest of the economy; and a sector, which may be described as "*the rest of the world*", the accounts for which record international transactions, that is transactions between residents and non-residents. The boundaries of some of these sectors may be drawn in various ways, and these essential sectors may be subdivided in greater or less detail.

A social accounting system requires, also, a method of classifying transactions which can be applied consistently to the various forms of economic activity. This introduces into the statistical method the kind of discipline and order which are necessary in commercial accounting, although the principal consideration in the classification of transactions for social accounting must always be to serve the purpose of economic analysis.

There are two points of view from which transactions are classified. In the first place, different types of account are established, each corresponding to a particular kind of economic activity. Thus all economic activity and all

transactions can be regarded as relating to one of three headings: production, consumption and adding to wealth. A production account records the transactions involved in production and supply of goods and services. A consumption account (or income and expenditure account) records the current expenditure out of the income generated in production or received by transfers. An account for "adding to wealth" (or capital account) records the use of the savings derived from an income and expenditure account.

Secondly, all transactions can be divided between requited payments made for the supply of goods or services, including the services of factors of production, or for the transfer of financial assets, and unrequited payments, or transfers, such as taxes on income, grants and gifts. The importance of this distinction is that only the requited payments enter into the national income and expenditure as defined above; the transfer payments represent a redistribution of the national income without adding to its total. Transfer payments thus appear only in the accounts for the individual sectors of the economy and not in the aggregate national income and expenditure. For example, the income of the government, regarded as an administrative apparatus and excluding its trading enterprises and rental income, consists wholly of transfer payments and does not appear in the national income.

The choice of sectors, the content of the accounts displayed, and the classification of transactions can be varied, and there are in fact significant differences between the systems used in different countries. The methods used in the United Kingdom are described below.

DEFINITION OF THE SECTORS

The sectors should be so defined that each constitutes a group of entities similar to one another in general characteristics affecting economic behaviour. Any grouping is bound to involve some loss of detail; the practical objective is a reasonable compromise between a mass of particulars and a grouping so broad as to obscure important differences. In practice the scope for possible multiplication of sectors is restricted by the extent of available information to a narrower range than might seem desirable.

The sectors into which the United Kingdom economy is divided for this purpose are:

- Persons
- Corporate enterprises—
 - companies
 - public corporations
- Public authorities—
 - Central Government
 - local authorities
- The rest of the world.

A more detailed description of each sector will be found at the beginning of the appropriate chapter in this book. Only a few general points need be noted here.

The accounts for the *personal sector* record primarily the transactions of households and individuals considered as final consumers. (The transactions of the other domestic sectors also record, in the last resort, the economic

activities of individuals, but of individuals acting as members of collective enterprises and institutions.) In practice, however, it is impossible to isolate entirely the transactions of households and individuals as such, and the personal sector includes certain other elements.

The income of the personal sector necessarily includes the whole income (after deducting trading expenses) of self-employed individuals such as farmers, professional people and individual traders and partnerships. It would, of course, be preferable to separate the transactions of such unincorporated businesses from the purely "personal" transactions of their proprietors. Indeed in every unincorporated business for which adequate books are kept (especially for partnerships), some attempt is made to distinguish between the income taken out of the business by the proprietor or the partners and the income retained in the business. In practice, it is impossible to obtain comprehensive data, or even reliable sample data, which would make such a division possible in the social accounts. But even if accounting data were available, it is open to question whether the resulting division between "distributed" and "undistributed" income, which must rest on an inherently arbitrary statement of transactions within the business, would have real significance for economic analysis. Consequently, the saving of self-employed persons, which is a very substantial element in the total saving of the personal sector, necessarily includes an indistinguishable amount of saving reinvested in the business by the proprietor which, in the case of a company, would be regarded as undistributed profit.

The personal sector also includes private non-profit-making bodies serving persons, such as churches, charities, social clubs and universities. It would be preferable to treat these bodies as a separate sector but the necessary information is not available; failing this, they must be regarded as "collective persons". Further, the life funds of life assurance companies and the funds of occupational superannuation schemes are regarded as the collective property of the policy holders or beneficiaries of the schemes; again, it might be desirable, were enough information available, to treat them as a separate sector. These extensions of the personal sector affect primarily the capital account. The current expenditure of the personal sector is very close to what would normally be understood as personal or consumers' expenditure; but its capital account includes a substantial element of productive, or business, transactions.

Companies and public corporations together comprise the bulk of productive enterprises, although a significant proportion of productive enterprises consists of the unincorporated businesses of which the net income is included in the income of the personal sector, and although some productive enterprises are incorporated in the Central Government and local authority sectors.

A separate sector is established for companies, rather than for all privately owned productive enterprises, because of the difficulties described above in distinguishing between business income and personal income of the proprietors of unincorporated enterprises. An important distinction, which is roughly shown in certain tables in the Blue Book, is that between financial companies (i.e. companies engaged in the industry "insurance, banking and finance") and all other companies. This distinction is particularly significant in considering the capital account of the company sector.

Public corporations (which control a sizeable proportion of the United Kingdom economy since the nationalisations of 1945-1951) differ on the one hand from companies in that their aims do not include the maximisation of their profits, and on the other hand from public trading departments in their relative financial independence and freedom from detailed control by the Central Government. Changes in the scope of the company sector and the public corporation sector as a result of successive acts of nationalisation and denationalisation must be kept in mind; for some purposes the two sectors are more appropriately combined.

The *Central Government* sector is defined to include the National Insurance Funds, of which the income and expenditure are determined by the Central Government. It also includes a number of publicly constituted boards and the like, which, while not government departments in the ordinary sense, are financially dependent upon, and effectively controlled in major matters by the government. The *local authorities* sector needs no special explanation at this stage. For some purposes, a consolidation of the Central Government's transactions with those of local authorities⁽¹⁾ is appropriate (for example, in analysing expenditure on education or social services); but the importance to economic activity of the policy decisions, especially of the budgetary decisions, of the Central Government justify its separation as a sector, and the separate presentation of its accounts. Both the Central Government sector and the local authorities sector incorporate certain productive or trading enterprises financed directly from the general accounts of public authorities (as distinct from the public corporations).

Finally accounts are shown for the "*rest of the world*" to cover transactions of non-residents with residents of the United Kingdom. The accounts for the "*rest of the world*" sector are essentially the transactions shown in statements of the balance of payments.

It will be realised that each of these sectors represents a very large and not in fact wholly homogeneous group of individuals, enterprises or institutions. Much further subdivision can be imagined, and could usefully be presented in a systematic way were the information available. For example, it would be highly desirable to divide the personal sector between income groups and to separate the non-profit-making bodies. Again the company sector might be divided by industries, or between large and small firms⁽²⁾ or social accounts could be devised for particular geographical areas. The rest of the world could be divided by regions (and is indeed so divided in the official statistics of the balance of payments).

TYPES OF ACCOUNT

Three kinds of account are used, corresponding to the three functions into which economic activity may be divided: production, consumption and adding to wealth. For each function, there is a particular kind of account

⁽¹⁾ The phrase "public authorities" is used to describe the combination of Central Government with local authorities.

⁽²⁾ In fact a good deal of data is provided (about wages and salaries, profits, investment, etc.) by industries. But because of the nature of the statistics (e.g. the difficulty of separating companies from other forms of enterprises within an industry) the industrial analysis presented in the Blue Book tables often cuts across the sector analysis, and insufficient information is available to provide a complete set of accounts for each industry.

(not very different from the types of account used in business accounting which are similarly described):

<i>Economic function</i>	<i>Type of account</i>
Production	Production, or operating or trading account
Consumption	Income and expenditure, or current, or revenue, or appropriation account
Adding to wealth	Capital or saving and investment account

The alternative names given to the same type of account have little special significance. It would formally be possible to establish each of these three accounts for each sector and for the economy as a whole, although this is not in fact done in the United Kingdom statistics.

The *production account* for a sector corresponds roughly to the trading account of a firm. The main elements on the expenditure side are the current costs of production (materials, wages, rent, etc.) while the receipts side comprises principally the receipts from current sales. The balance is a trading profit. Thus all factor incomes originate in the expenditure side or in the trading profits shown on a production account.

The production account is clearly appropriate only to an enterprise. A production account could, however, be constructed for the personal sector or for the public authorities sectors since, as shown above, these sectors include a certain proportion of enterprises.

In the statistics for the United Kingdom, separate production accounts for the individual sectors are not at present shown (except for public corporations), mainly because of lack of the necessary information. The main table of aggregate national income and expenditure (Table 1 of the Blue Book, 1955) is, however, in effect a production account for the United Kingdom as a whole⁽¹⁾. This table may be regarded as summarising the activity of the economy considered as a giant enterprise: it shows, in consolidated form, the expenditure incurred on purchasing the services of all factors of production, and the receipts in the form of sales to final purchasers (the different forms of final expenditure). Hence the factor incomes received by each sector may be regarded as flowing from the production account of the economy as a whole.

The income (or trading profit) derived from the production account of a trading enterprise is carried into its *income and expenditure account*. In the case of a corporate enterprise this is better described as an appropriation account, in which the receipts of income (whether from its own production account or from other sources such as investments) are shown as distributed to the shareholders, the debt-holders, or, in taxes, to the government. What remains, the undistributed profit, is the enterprise's saving. The sectors which consist wholly of productive enterprises (the company sector and the public corporations sector) show no current purchases of goods and services on income and expenditure account since such enterprises cannot be final consumers. Their expenditure consists wholly in the redistribution of income by transfer payments of interest and dividends, or

(¹) The rearrangement of this table required to put it into the form of a production account is explained on page 47.

by taxes. The purchases of goods and services of a productive enterprise are wholly on production account or on capital account.

The analogous income and expenditure account of persons may appear somewhat different in content. The whole of personal incomes, whether from factor earnings or from transfers, is shown as a receipt, while the bulk of the outlay is devoted to consumers' expenditure and another share is paid in taxes. A balance of savings remains.

The income and expenditure account of public authorities brings in as income mainly receipts of taxes (together with some trading profits); the bulk of the outgoings consists of current expenditure either on goods and services or on transfer payments, the latter going chiefly to the personal sector. Again a balance of savings (sometimes negative) remains.

Income and expenditure accounts are drawn up for all domestic sectors in the United Kingdom statistics. Each results in an excess of current income over current outgoings (or a deficit) which is carried forward as a form of saving (or dis-saving) to a *capital account*.

The sum of these savings carried from income and expenditure accounts to capital accounts represents the total of national savings available for adding to wealth. The capital account for the nation as a whole shows the sum of savings of the several domestic sectors as a receipt, together with any net capital transfers received from the rest of the world. The total receipts are balanced by the change in assets, whether physical (fixed assets or stocks) or financial (in the form of financial claims on the rest of the world). The capital account for a sector shows as receipts the saving on its income and expenditure account, capital transfers received and financial liabilities contracted to other sectors. This is balanced by the increase in the sector's physical assets, capital transfers paid and financial assets acquired in the form of claims on other sectors.

A capital account might usefully be constructed for each sector. In fact, detailed capital accounts are at present provided only for public corporations and public authorities, because full information for the other sectors is not available (although some elements in the capital account of the personal sector are shown). There are, however, very summary tables bringing together the principal elements in the capital accounts for each sector.

Only a single account is given in the Blue Book for international transactions, combining elements of a production account (imports and exports of goods and services which generate factor incomes in the rest of the world or in the United Kingdom, respectively); elements of an income and expenditure account (income from profits or property, and current transfers, paid or received); and elements of a capital account (net investment abroad and capital transfers). For consistency with the rest of the social accounts, the account of international transactions must be treated as the account of the rest of the world with the United Kingdom. Thus United Kingdom exports must be treated as payments, being expenditure by the rest of the world generating factor incomes in the United Kingdom in the same way as expenditure by United Kingdom consumers generates factor incomes. United Kingdom imports must appear as receipts, being expenditure by the United Kingdom generating factor incomes in other countries.

The system of sector accounts shown in the Blue Book, and references to the relevant tables, are summarised in the table on page 24.

The system of social accounts

Type of account	Sector				
	Persons	Companies	Public corporations	Central Government	Local authorities
	Production account of the United Kingdom ⁽¹⁾				
Production	Personal income and expenditure account ⁽²⁾	Appropriation account of companies ⁽³⁾	Appropriation account of public corporations ⁽⁴⁾	Revenue account of Central Government ⁽⁵⁾	Current account of local authorities ⁽⁶⁾
Income and expenditure .	Capital account of persons ⁽⁷⁾	Capital account of companies ⁽⁸⁾	Capital account of public corporations ⁽⁹⁾	Capital account of Central Government ⁽¹⁰⁾	Capital account of local authorities ⁽¹¹⁾
Capital					Account of transactions between the United Kingdom and the rest of the world ⁽¹²⁾

The references are to table numbers in the Blue Book, 1955.

(1) Table 1† (but see notes in Chapter IV, page 47).

(2) Table 2.

(3) Table 29 (combined with public corporations in Table 3).

(4) Table 33.

(5) Table 37 (also Table 4 in summary).

(6) Table 40 (also Table 5 in summary).

† In addition a production or operating account is given for public corporations in Table 32.

(7) Table 45 (in summary form; some elements also in Table 27).

(8) Table 45 (in summary form).

(9) Table 34 (and Table 45 in summary form).

(10) Table 38 (and Table 45 in summary form).

(11) Table 41 (and Table 45 in summary form).

(12) Table 7 (and Table 45 in summary form).

TYPES OF TRANSACTION

As pointed out on page 19, transactions, or money flows, may be divided between required and unrequired payments. Each group may be further subdivided by reference to the purpose of the payment and the circumstances in which it is made. Thus required payments may be divided between payments for goods and services, payments to factors of production (wages, salaries, profits or rent) and payments for financial assets (loans and transactions in money claims). Some types of transaction may occur either on current or on capital accounts, according to their nature; for example, purchases of goods and services may be "consumption", or "adding to wealth" in the form of physical assets. Considerations of this sort suggest the following classification of money flows⁽¹⁾, showing also the types of account in which they may feature:

<i>Type of transaction</i>	<i>Accounts in which appearing</i>
<i>Required flows</i>	
Purchases and sales of goods and services	Production, income and expenditure, capital, rest of world
Payments to factors of production	Production, income and expenditure
Payments for financial assets	Capital
<i>Unrequired flows (or "transfers")</i>	
Interest and dividends	Income and expenditure, rest of world
Grants	Income and expenditure, capital, rest of world
Taxes on expenditure	Production, income and expenditure, capital, rest of world
Taxes on income and capital	Income and expenditure, capital, rest of world
Subsidies	Production, income and expenditure
Saving	Income and expenditure, capital, rest of world

This classification of transactions runs through the whole system of national income tables and the different types of flows are normally distinguished in each table⁽²⁾. The main principles of the classification should be clear from the earlier discussion. Their detailed application to the transactions of each sector is explained in later chapters.

The articulation of social accounts

It is evident that each payment from an account is also a receipt in another account⁽³⁾. For example, the payment of personal income tax appears on the payments side of the personal income and expenditure account and as a receipt in the Central Government's revenue account. Wages are paid

⁽¹⁾ Some of the "money flows" in each category may represent imputed transactions.

⁽²⁾ If provision for depreciation were separately recorded, it would be regarded as a required payment on production account and as a receipt on capital account.

⁽³⁾ Some transactions appear as payments and receipts in the same account (e.g. payments by households to domestic servants and the imputed rent of owner-occupied houses appear in both personal income and personal expenditure). This is because the income and expenditure account of persons, and also that of public authorities, incorporate minor elements which should more strictly be transferred to production accounts.

from the United Kingdom production account to the personal income and expenditure account. Thus it would be possible to present the social accounts in such a way that every payment reappeared as an identifiable receipt in another account. Such a system of social accounts is said to be "articulated". Complete articulation is often impossible in practice, for lack of information; although helpful to the estimator, it is essential neither to the formulation nor to the presentation of social accounts.

Relation of social accounts to commercial and other accounts

The social accounts, of course, resemble the accounts kept for their own purposes by the individuals, enterprises and institutions which make up the sectors. Thus the Central Government keeps for administrative and Parliamentary purposes a large number of accounts of different kinds. Individual local authorities keep revenue and capital accounts which are aggregated, with relatively minor adjustments, to form the relevant parts of the social accounts. Public corporations publish accounts annually, and public companies deposit with the Registrar of Companies their appropriation accounts and balance sheets. In many cases, however, these accounts do not give the items required for social accounting purposes, or are insufficiently comprehensive. There are other cases where no accounts exist at all, or at least are not available to the estimator, for example the income and expenditure transactions of private households. Parts of the social accounts thus represent not a summation of records actually kept but a reconstruction of what such a summation would contain if accounts were kept on certain principles. The estimator must frequently decide what kinds of transactions to include in any particular account.

In making decisions of this kind it has always to be borne in mind that the ultimate purpose of the statistics is to measure quantities which are of significance for economic analysis. For this purpose transactions must be defined and classified not on purely formal criteria but in such a way as to group together transactions which are essentially similar in their nature, causes or effects. It is recognised, however, that no single accounting framework is likely to be ideal for all kinds of analysis or in all circumstances. The purpose of the accounting framework is to provide a convenient, consistent and orderly method of presenting a mass of statistical information. But it is important that enough detail should be shown to enable the user to make such alternative arrangements of the data as may seem useful for the solution of particular problems.

Chapter III

Statistical Sources and Methods: A General Review

1. INCOME AND EXPENDITURE AT CURRENT PRICES

In subsequent chapters a fairly detailed description will be found of the sources and methods used for the various categories of income, product and expenditure. The statistical structure is essentially synthetic; in building it up, a great variety of statistical sources, both official and unofficial, is drawn upon. The quality of the resulting figures can be judged only by reference to the quality of their component parts, bearing in mind however that at many points checks can be applied because of the inter-relationships of the concepts measured. The present chapter gives only a summary review of the sources and of the ways in which they are used.

It should be realised from the outset that one of the major objects of the system of national income and expenditure statistics is to throw light on the inter-relationships between various forms of economic activity—for example, between profits and capital formation, between the balance of payments and consumers' expenditure, between personal savings and personal tax liabilities. It may indeed be maintained that the study of these inter-relationships is more important than a knowledge of the aggregates; little is gained by precise knowledge of the size of the gross national product, although it is important to have accurate information about changes in it. The importance of the study of inter-relationships means that *internal consistency* between the sources used for different items in the accounts is a major consideration in the choice and use of data and in any judgment about the reliability of the conclusions drawn from the information.

From the conceptual identities brought out in Chapter I, it is clear that the major aggregates of national income and national expenditure may be approached by estimating output, incomes or expenditure. Until the 1930's it was necessary to rely almost wholly on estimates of incomes. The early work of Bowley and Stamp⁽¹⁾ was based very largely on income data, especially wage statistics and tax assessments. A different approach was made by Flux⁽²⁾, using estimates of industrial output from the census of production. The first attempt to reconcile aggregates derived from income data with independent estimates of the components of final expenditure was made by Clark⁽³⁾.

(1) A. L. Bowley, *The Division of the Product of Industry*, 1919. A. L. Bowley and Josiah Stamp, *The National Income 1924, 1927*.

(2) A. W. Flux, 'The National Income' *Journal of the Royal Statistical Society* Vol. XCII, Part 1 (1929). A similar estimate is made in the Report of the Census of Production, 1907 (Cmd. 6320, 1912).

(3) Colin Clark, *National Income and Outlay*, 1937.

The series of official estimates which began in 1941⁽¹⁾ was based primarily on income data although items of expenditure other than capital formation (both in fixed assets and stocks) were directly estimated. It is only recently—especially because of the development of new sources of information about fixed capital expenditure and stocks—that it has become possible in the official estimates to use basically independent sources for all (or almost all) forms of income and of expenditure. Some of these estimates, especially those for certain categories of stocks, are still extremely rough and unsatisfactory.

Estimates of income

Statistics based on tax assessments are now the major source of statistics of income. This source has always been very extensively drawn upon in British national income statistics for non-wage incomes, especially since its use was developed in the early work of Lord Stamp⁽²⁾. The rise in money incomes, together with the fact that the tax exemption limit was reduced slightly during the second world war and even now is only £55 (less than 45 per cent.) above its pre-war level, has brought almost all income earners within the field of review for income tax. The development by the Inland Revenue of the statistical analysis of the tax assessment records has also made possible during the past few years a very substantial extension of the detail which can be derived from these records and of the accuracy with which they can be adapted to national income concepts.

Thus Inland Revenue tax data are the source for the estimates of company profits, of most of the income of the self-employed, of part of rental incomes, and of aggregate wages and salaries. It should, however, be pointed out that tax assessment data for profit incomes are necessarily not available for the latest year shown in each Blue Book; other and less satisfactory methods must be used for estimating the trend of profits in the immediate past. The tax data relating to employment income (since they can be analysed only by firms and not by establishments) do not permit so satisfactory a division by industries as the statistics of wage and salary payments in the census of production and, for wage-earners, the Ministry of Labour's statistics of average earnings and numbers employed. The census of production, too, is the only source of separate data for wages and salaries covering any considerable part of industry.

Supplementary information on employment incomes in specific industries can also be drawn from other sources (e.g. the accounts of the Central Government and the census of distribution). Statistics of the trading surpluses of public corporations are taken from their published accounts and those of Central Government and local authority trading enterprises from their trading accounts. Some information on rental incomes is drawn from expenditure data (mainly sample surveys of consumers) and from Central Government and local authority accounts. Income from abroad is derived from the sources used in the balance of payments white papers. The statistics of personal income from transfer payments (national insurance benefits, etc.) are drawn from the accounts of the National Insurance Funds and from other Central

⁽¹⁾ *An analysis of the Sources of War Finance and an Estimate of the National Income and Expenditure in 1938 and 1940* (Cmd. 6261).

⁽²⁾ Josiah Stamp, *British Incomes and Property*, 1916.

Government accounts. Estimates of payments of interest and dividends are chiefly derived from tax data (especially from profits tax data since distributed profits are charged at a different rate of tax from that applying to undistributed profits), supplemented by published summaries of company accounts. In total, about 85 per cent. of the estimate of national income from the income side (that is, of factor incomes) is derived from tax assessment data.

Estimates of expenditure

By contrast, the data relating to expenditure are necessarily drawn from a large variety of sources; consequently, there is less assurance of internal consistency.

The sources used for estimates of *consumers' expenditure*, in particular, are very heterogeneous. For expenditure on food, the two major sources are detailed statistics, compiled by the Ministry of Agriculture, Fisheries and Food, relating to supplies of the main foodstuffs (expressed originally in quantities and valued at estimated retail prices), and the regular sample surveys of household expenditure on food conducted by the National Food Survey. For expenditure on drink and tobacco, Customs and Excise data and trade statistics are used. For clothing, household goods and a number of other commodities, series are compiled by the Board of Trade; the most common method is to derive a base year estimate from census of production statistics (adjusted for foreign trade) checked against data from the Census of Distribution for 1950, while the Board of Trade's sample of retail sales is employed for year to year movements since the base year. For a number of other goods and services, sample surveys made at various times by the Government Social Survey are used. Estimates of fuel consumption, expenditure on travel, entertainments and communication services are derived with the help of the departments responsible for the ordinary published statistics. A number of other methods—some being little more than guesses—are used for other forms of consumers' expenditure. Many of the estimates have been improved in the light of the sample inquiry into household expenditure made by the Ministry of Labour in 1953-54.

Certain general points may be observed about these estimates of consumers' expenditure. Firstly, it will be realised from the nature of the data used that they do not all necessarily refer strictly to "consumers' expenditure"—that is, generally, to retail sales. Many series (e.g. many of the major series for food) relate to supplies coming forward at some earlier stage, for example wholesalers' deliveries to retailers, or manufacturers' deliveries to wholesalers. Thus year to year changes in the series used may sometimes reflect changes in the stocks held in the distributive chain beyond the point of recording, rather than genuine changes in consumers' expenditure. Secondly, a proportion of many classes of "consumer" goods and services is bought on business account and must not be included in consumers' expenditure; the basis for an accurate estimate of such business purchases rarely exists but an estimate must be made when, as frequently happens, the original data relate to the total supply of a particular class of goods or services. Thirdly, the use of a variety of independent sources increases the risk of overlapping or of leaving unfilled gaps. The second and third of these factors should not much affect the estimates of year to year changes but they could lead to error

in estimating the general level of consumers' expenditure and consequently to a more or less regular overstatement or understatement of "personal saving" which is purely a residue in the income and expenditure account of the personal sector.

The estimates of *capital expenditure* on fixed assets and of changes in *stocks and work in progress* are somewhat more homogeneous. A major source here is the information in the annual censuses of production, which now contain special questions on capital expenditure and stock changes in the industries covered⁽¹⁾. For private industry outside the census field, however, various sources, some far from satisfactory, must be used. For fixed capital expenditure, two classes of data must often be married: first, records of *capital expenditure*, such as the accounts of the Central Government, local authorities and public corporations; and secondly, records of the *output*, adjusted for foreign trade, of certain kinds of capital goods—especially some classes of building work, road vehicles and ships. The choice between these two categories of data for fixed capital formation applies, indeed, over much of the field. In general, preference is given in the United Kingdom statistics to data directly relating to expenditure, mainly because such data, being derived basically from the same records as the statistics of profits, are most likely to afford consistency between the income and expenditure estimates. This is particularly important because of the interest in the relationships between profits and fixed capital formation. On the other hand, reliance on accounting data means that the definition of fixed capital formation depends on the accounting conventions used and no very clear classification can be given of what types of assets are treated, at the margin, as "capital" goods.

Data about stocks outside the census of production field are derived mainly from accounting data of changes in the value of stocks, that is, from sources similar to the accounting data on fixed capital formation. There are still, however, some important gaps, of which probably the most serious is the lack of comprehensive statistics of stocks held by wholesale distributors.

The statistics of *Central Government* expenditure are derived from the various Exchequer and departmental accounts. But the very detailed and accurate basic data must be extensively rearranged to fit the concepts used in national income statistics. Much the same applies to the estimates of *local authority* expenditure which are summarised in the *Local Government Financial Statistics*, although the basic data provided are in this case both less detailed and in some respects closer to the social accounting categories required. The rearrangement in both cases involves elements of estimation at certain points.

For *international transactions*, the data presented in the Treasury's six-monthly white papers on the balance of payments are employed, although some modifications in presentation are required to adapt these estimates to the concepts used in the national income statistics.

Statistics of *tax payments* are drawn from the Central Government and local authority accounts. Where it is necessary to allocate total payments of taxes on income between different sectors, or to differentiate between the

⁽¹⁾ To provide estimates for the last year shown in each Blue Book, incomplete tabulations of census data are used, together with quarterly data on stocks, collected from a limited number of enterprises; in future, it will be possible to use the quarterly returns of fixed capital expenditure begun in 1955 (see page 291).

tax actually paid in a year and the tax liability in respect of the income arising in the same period, special estimates are made by the Inland Revenue.

The major sources

It will be seen that the greater part of the statistical structure derives from three major sources: Inland Revenue data of tax assessments, the census of production, and the Central Government accounts. Each of these sources is used at many points throughout the system⁽¹⁾. These three main sources are supplemented by a variety of others.

Certain points about the combination of these sources should be noticed. In the first place, it seems reasonable to suppose that the tax assessment data and the census of production data are derived from what is broadly a common method of accounting. Thus the important set of relationships between profits, fixed capital formation and changes in the value of stocks, so far as the latter two are derived from the census, can be regarded as well established.

Secondly, an important problem arises from the lack of uniformity in the various sources in respect of the periods of account. The national income statistics relate in principle to calendar years. But the tax assessment data used for profit incomes are the aggregates of the accounting years of the enterprises concerned. Similarly, firms are allowed to make returns for the census of production in respect of their own accounting years. It so happens that (since most accounting years end with the last or first calendar quarter) the weighted average terminal date of accounting years, both for the tax assessment data of profits and for the census of production data, is near the end of the calendar year (in early December in both cases). It is nevertheless possible, in certain circumstances (especially when prices change rapidly), that the results for these aggregations of accounting years may differ significantly from the actual experience during the calendar year. Again, however, the more or less common basis of the census of production and the tax assessment data reduces the chance of errors arising from internal inconsistencies. The Central Government accounts relate, of course, to the Government's financial year (ending 31st March) but many elements in the Government accounts are recorded on the basis of shorter periods and reasonably good estimates can be made for calendar years.

The stage at which transactions are recorded

This raises the general question of the point in time at which transactions ought to be recorded, which may be of considerable importance for achieving internal consistency between the income and expenditure estimates. The sale of an article involves the placing of the order by the buyer, the delivery of the article, the rendering of an account by the seller, and the actual payment by the buyer; these operations often take place on different—sometimes widely different—dates. An example is provided by imports and exports of commodities. Certain imports into the United Kingdom are generally paid for and pass into the ownership of United Kingdom residents some considerable time before they reach this country, while payment for exports normally takes place on arrival in foreign ports. For this reason the measures

⁽¹⁾ Appendix II (page 350) contains a note on certain features of the census of production which are relevant to a number of series derived from this source. Appendix III (page 351) contains a description of some of the terms used in Inland Revenue statistics.

of imports and exports in terms of transfer of ownership (as in the balance of payments white papers) usually differ from the measures of physical arrivals in and departures from the United Kingdom (as shown in the *Trade and Navigation Accounts*). In cases like this, it is necessary to decide which of these events is to count as the "transaction" for the purpose of the national income statistics, since it is clear that in any given period the value of transactions on one basis will not necessarily be the same as on another. Further, the same basis should be adopted throughout the accounts if they are to be mutually consistent.

In practice, the choice is generally between two bases of accounting: the cash (or payments and receipts) basis, on which transactions are recorded when money passes; and the "payable-receivable" basis, on which transactions are recorded when payment becomes due. The principle adopted in the Blue Book is, so far as possible, to record transactions as taking place at the time when payment becomes due; in the case of the sale of goods, this is generally equivalent to the date of delivery. Thus in the case of imports and exports, the treatment follows the balance of payments white papers, not the *Trade and Navigation Accounts*. The payable-receivable basis is that used in ordinary commercial accounting and is thus inevitably used when the statistics are derived from such accounts.

The adoption of this principle creates certain difficulties. Indeed, since the information most easily available for different groups of transactions is not itself on a uniform basis, the adoption of any one principle is bound to raise problems of adjustment in some part of the field. However, the number of points at which serious difficulty arises is fairly limited. Information derived from commercial accounts, e.g. company profits, is already in substance on the desired basis, while in other cases, e.g. wages, although the available information generally relates to cash payments, there is no reason to believe that there is any large difference between one basis of measurement and another.

One difficult case is that of government purchases of goods and services (other than payments of wages and salaries). For reasons connected with the maintenance of Parliamentary control, the main accounts of the Central Government are recorded entirely on a cash basis⁽¹⁾. Trading accounts on a commercial basis are indeed available for many Government trading activities and are used in the Blue Book in preference to the cash accounts whenever possible; but for most of the expenditure by the Central Government, only records on a cash basis are available. When there are marked changes in expenditure (e.g. in purchases of military equipment) a record in terms of amounts payable might show significantly different results. Hence inconsistencies may arise between government expenditure and the accounts in the Blue Book for the rest of the economy.

Difficulty also arises over the recording of capital expenditure on fixed assets. For certain classes of asset, in particular building work, the construction of the asset extends over a considerable period. The problem is to ensure that the increase in work done during the accounting period, which generates

⁽¹⁾ For a discussion of the Central Government's accounts from this point of view see *Final Report of the Committee on the Form of Government Accounts* (the "Crick Committee") (Cmd. 7969, 1950). See also page 183 for more detailed discussion of the basis of recording Central Government transactions.

factor income, is matched either by capital expenditure on the part of the purchaser (which can generally be taken to include progress payments), or by an increase in work in progress on the part of the producer, without duplication or omission. With the information available, the consistency is necessarily imperfect.

The extent of inconsistency arising from the use of differing bases of accounting may not be very serious for periods as long as a year, except perhaps when there are marked changes in trend in the components. But the presence of such inconsistencies makes it much more hazardous to establish national income and expenditure statistics for shorter periods than a year.

The reconciliation of income and expenditure: the "residual error"

These problems of internal consistency between different types of records have an important bearing on the reconciliation between the largely independent estimates of aggregate income and aggregate expenditure. It is, of course, always possible to manipulate the least reliable estimates so that complete reconciliation of the totals is achieved; until 1953 this was always done. In view of the development of the statistical sources, it is now felt, however, that it is no longer reasonable to presume that the whole discrepancy is more likely to be due to one item than to another. The error may arise, for example, not from incompleteness or inaccuracies in basic data, but from an undetectable lack of simultaneity in timing which there is no reason to attribute to any one particular component. Hence the residual discrepancy between the income and expenditure estimates is now shown as a "residual error". It is presented as though it were an unknown item (positive or negative) of income. This is purely for convenience of presentation, and does not imply that the estimates of expenditure are regarded as superior in accuracy to the estimates of income.

The reliability of the estimates

It is essential that a system of statistics of national income and expenditure, or of social accounts, should be comprehensive; an estimate must be included for each item that appears in a balancing account. In present circumstances the estimator could not establish a system of national income statistics at all if he were compelled to restrict his presentation to those components in the system which are soundly based on accurately recorded facts. It is inevitable that the published statistics should include a number of figures for which the evidence is relatively weak. It is, however, the duty of the estimator to warn the users of the statistics about the weakness of some of the figures presented. The object is that the user should not (except at his own risk) draw substantial conclusions about the state of the economy from differences between components, or differences between one year and another in the value of a given component, when there is a good chance that such differences may be due solely to errors in estimation.

It will be clear from the summary review of the data used that it is impossible to calculate statistical "margins of error" of the kind that are derived from random samples for any of the aggregates or for most of their components. It is however possible, from knowledge of the data, to form very rough and mainly subjective judgments of the range of reasonable doubt attaching to the estimates. This is done in the chapters concerned with

the detailed estimates. Wherever possible these judgments are standardised by the use of uniform gradings, as follows:

	<i>margin of error</i>
A . . .	\pm less than 3 per cent.
B . . .	\pm 3 per cent. to 10 per cent.
C . . .	\pm more than 10 per cent. ⁽¹⁾

It has not in fact been found possible to attach gradings to every individual series nor to apply them in a fully standardised way. A description is usually given of the reliability (a) of the figures for the most recent year shown in the Blue Book, these often being preliminary estimates and thus more uncertain than the figures for earlier years, and (b) of the figures for the most recent year but one. Generally, the figures for earlier years are about as reliable as those for the most recent year but one. In some cases, however, the description of sources will show that the reliability of an estimate for a given year improves continuously with the passage of time (for example, the statistics based on tax assessments are subject to revision for a number of years after the first provisional estimates are made). In other cases, some earlier year, such as 1948, represents a "benchmark" year because of the taking of a detailed census. In several series, the figures for the earliest years shown, generally for years before 1948, are much less reliable than those for later years because of the development of new sources of information. Nearly all the figures for 1938 are subject to much more uncertainty than those for post-war years.

Like margins of error derived from random samples, these judgments do not represent absolute certainty. They may be taken to mean that, in the opinion of the estimators and in their present state of knowledge, there is, say, a 90 per cent. chance that the true value of the figures referred to lies within the limits set by the grading.

The gradings are applied to the absolute values of the various components. It is generally true to say that the absolute error in the *change* from year to year is likely to be less than might appear from the errors attached to the absolute values. Nearly always, when a figure is attributed to an item about which there is much uncertainty, consideration is paid to the probable change from the previous year. This implies that the error in the absolute figures, whatever it may be, is likely to be in the same direction in all years. The deviations between the estimates and the true facts are likely to consist partly of a bias which is more or less constant from year to year, and partly of a more random element. This is another way in which the margins of error shown here differ from those attaching to random samples.

Those major aggregates of which the components are drawn from a variety of sources (such as total consumers' expenditure, or total fixed capital formation) contain some very reliable estimates and some exceedingly weak ones. The proportionate error attaching to the aggregates is likely to be less than the weighted mean of the proportionate errors attaching to the components. This is so not only because the errors in the components are likely, to some extent, to offset each other, but also because the estimate of each major

⁽¹⁾ The terms "good", "fair" and "poor" are used at some points in the text and are broadly equivalent to the categories A, B and C.

aggregate is controlled by the necessary relationships between income and expenditure.

The gradings are attached to the figures appearing in the Blue Book. They are not necessarily any indication of the reliability of the basic statistics from which the Blue Book figures are derived. It frequently happens that a margin of error arises not in the basic statistics but in the various adjustments required to adapt the basic statistics to national income concepts. For example, there are reliable figures of the total number of new motor cars reaching the home market. But a very wide margin of error must be attributed to consumers' expenditure on the purchase of motor cars: (a) because a very uncertain division must be made between cars supplied for business use, which must be regarded as fixed capital formation, and cars supplied to consumers which alone enter into consumers' expenditure; (b) because a further allowance must be made in consumers' expenditure for consumers' net purchases of second-hand cars from other sectors⁽¹⁾. (This example also illustrates another point: it will be seen that an error in the estimate of consumers' expenditure on new cars will be offset by a similar and opposite error in fixed capital formation; there is no resulting error in the total of national expenditure.) Similar considerations apply to many items of consumers' expenditure where reliable figures exist of the total supply of a class of goods, but considerable uncertainty arises in the proportion to be attributed to consumers' expenditure and the proportion to be attributed to business purchases. Again, much of the margin of error attaching to the estimates of company profits arises not from the basic data derived from tax assessments, but from the adjustments required to adapt the basic statistics to a definition consistent with the conceptual framework of national income measurement.

The gradings do not rule out the possibility of subsequent revisions resulting in new estimates differing from the old by more than the margin of error attributed here. Firstly, as pointed out above, the gradings are intended to represent a probability (suggested as 90 per cent.) and not a certainty. Secondly, the gradings represent an opinion arrived at with present knowledge—that is, on the basis of all the information now available and on an appreciation of the extent of the unfilled gaps in the information. New sources of information, for example new kinds of statistical returns, may however make it apparent that the estimate of an item for some years past was even further from the truth than the estimators thought likely. For example, the result of the Census of Distribution for 1950 showed that the estimates of consumers' expenditure on certain goods, in all years shown in the Blue Book and not only in 1950 itself, were incorrect. General progress in the development of economic statistics has been rapid in recent years and explains many substantial revisions in the figures of national income and expenditure; the view has been taken that in these conditions most users will prefer to have such revisions incorporated in the statistics as soon as is practicable, in spite of the disturbance caused by the adjustment of a complete series. Thirdly, substantial revisions are sometimes necessary because of changes in definition. Some of these are required because an internal inconsistency of definition comes to light—an element of duplication or a gap between different parts of the accounts. Other changes in definition are thought desirable to

(¹) See page 124.

achieve consistency with international conventions. The process of development of a somewhat complicated system of interlocking statistics is necessarily slow. But it is hoped that substantial changes in concepts and definitions will be infrequent in future.

One final point must be made bearing on the reliability of the statistics. No attempt is made to round off the estimates beyond the nearest £ million. It will be evident from the discussion of the degree of reliability that many estimates, stated to the nearest £1 million, must in fact be regarded as correct only to the nearest £5 million, or even for large items, to the nearest £50 million. The choice between rounding off and apparent but often spurious precision is a matter on which different views may be held. The arguments determining the presentation in the Blue Book of figures which have the appearance of more precision than the evidence warrants are: (a) the accumulation of rounding errors, which sometimes occurs when a number of rounded figures are added together, is avoided; (b) the presentation of rounded figures often distorts differences over time, or between items; (c) some of the estimates in the Blue Book tables are fairly precise; if the item is small (say less than £50 million), rounding, even to the nearest £5 million, would unnecessarily distort what they show; yet if such series remained unrounded, the major aggregates of which they are components (including the national income itself) would retain an apparent precision which they do not in fact possess.

If these reservations are borne in mind, the following table summarising the reliability gradings of the major components may be of value:

Reliability of estimates of major components at current prices

A \pm less than 3 per cent.; B \pm 3 per cent. to 10 per cent.; C \pm more than 10 per cent.

	<i>Latest year but one</i>	<i>Latest year</i>
Incomes		
Income from employment ⁽¹⁾	A	A
Income from self-employment	B	B
Gross trading profits of companies	B	B
Trading surpluses of public corporations	A	A
Gross profits of other public enterprises	A	A
Rent	B	B
Net income from abroad	C	C
Rent, dividends and interest received by persons	B	B
Current grants from public authorities received by persons	A	A
Expenditure		
Consumers' expenditure ⁽²⁾	A	A
Public authorities' current expenditure	A	A
Gross domestic fixed capital formation ⁽²⁾	B	B
Value of increase in stocks and work in progress	C	C
of which—stock appreciation	C	C
physical increase	C	C
Exports of goods and services	A	A
Imports of goods and services	A	A
Taxes on expenditure	A	A
Subsidies	A	A
Gross national product	A	A

(1) For a detailed grading of the components see page 91.

(2) For a detailed grading of the components see page 140.

(3) For a detailed grading of the components see page 307.

2. OUTPUT AND EXPENDITURE AT CONSTANT PRICES

For many purposes, the comparison of estimates of output and expenditure over time is of more interest when the effects of changes in prices are eliminated. Accordingly, estimates are made of the gross domestic product, and its main components, in each year, valued at the average prices of 1948. These estimates of the real domestic product, subdivided by industries and by categories of final expenditure, are summarised in Tables 12 and 13 of the Blue Book, 1955. Detailed estimates of consumers' expenditure and of gross fixed capital formation at constant prices are shown elsewhere. The estimates of the other parts of final expenditure at constant prices are not reliable enough to justify presentation in detail.

There are two general methods of estimating the gross domestic product at constant prices: the production method, which consists in adding together the contributions, valued at constant prices, of different industries to the gross domestic product; and the expenditure method, which consists in revaluing the various components of final expenditure at constant prices. It is impossible to make direct estimates in real terms of income as such for, until income is spent, it cannot be identified with actual goods and services; and all income is not necessarily spent. Further, there is no satisfactory way of valuing income from abroad in real terms. For these reasons, the estimates at constant prices are confined to estimates of the gross domestic product, subdivided by industry of origin and by categories of final expenditure.

The estimates of the gross domestic product at constant prices adhere, of course, to the definitions laid down in Chapter I. But the compilation of estimates of output and expenditure in real terms gives rise to a fairly distinct set of conceptual and practical problems. The main conceptual problem is to determine the appropriate unit in which each component of the domestic product is to be measured. The need for general principles of measurement is particularly felt in connection with the estimates of the output of services (as opposed to goods), including the services provided by public authorities. A brief account of these conceptual problems and of the solutions adopted is necessary to an understanding of the nature of the estimates⁽¹⁾.

General principles of measurement

The domestic product, as defined above (page 8) comprises all goods and services which result from economic activity; and this activity is deemed to take place within a certain boundary—known as the boundary of production. In accordance with this definition, it may be laid down as a general principle that the goods and services comprising the domestic product should be measured at the points at which they cross the production boundary (exceptions are any additions to stocks and work in progress during the year, which are of course included in the domestic product); final goods and services should in other words be measured at the points at which they finally emerge from the production process.

Generally speaking, this is also the point at which the final purchase takes place. In the case of most goods—as opposed to services—there is no diffi-

(1) For a fuller discussion, see J. L. Nicholson, 'Some Problems in the Measurement of Real National Income', *Income and Wealth*, Series IV (1955).

culty in determining the appropriate measure of changes in output; the quantity and the unit of measurement, as well as the price per unit, are usually stated at the time of purchase. It is useful, indeed, to remember that the purchase or sale of goods and services is generally governed by a contract which specifies the nature of the commodity and the conditions of the sale. Thus in cases, such as the provision of personal services, where the unit of output is not immediately obvious, the appropriate measure can usually be determined by considering what the producer is under contract to provide, or what the final purchaser in fact obtains, during the year in question. Examples of the application of these criteria are discussed in Appendix IV (page 353).

The same criteria cannot readily be applied to the services that are provided by public authorities for the benefit of the community as a whole. Payments made by the Central Government and local authorities to the police, the Forces, civil servants, teachers and doctors, and the associated purchases of various materials—uniforms, munitions, surgical equipment, etc.—are treated as forms of final expenditure in estimating national expenditure at current prices. The process of production does not, however, stop short at this point, but extends to the maintenance of law and order, defence, government administration, education, medical attention, and so on. When public authorities pay for labour and materials, this is not an end in itself, but enables them to provide certain services for the benefit of the community. The government is able to meet the cost of these services by imposing various forms of tax, which impinge on the production process. The fact that specific charges are not usually made to the consumers of the services is not a sufficient reason to exclude them. The production process is therefore assumed to include the provision of such services, which are valued, at current prices, at the cost of the labour, materials, etc. used in producing them.

As most of the services provided by public authorities are not bought or sold in any market, but are provided free of charge—or with only a nominal charge unrelated to the quantity obtained—it is not possible to apply the criterion of the market contract. There are thus inherent difficulties in measuring, in real terms, the output of government services, the exact nature of which cannot be precisely determined. It is difficult, indeed, to imagine any homogeneous units in which it would be possible to measure year to year changes in defence, education, civil administration, or the various forms of medical treatment available under the National Health Service. It is therefore necessary, in the case of each of the services that are maintained by public authorities, to decide *ad hoc* on the measure most likely to reflect movements in the output of the service in question. Sometimes it is helpful to consider the methods used in measuring analogous services produced under private enterprise; but, as will become evident from the details given below, the methods used are often somewhat arbitrary and depend to a large extent on the data available.

The production method and the expenditure method

As mentioned above, there are two general methods of estimating the gross domestic product at constant prices: the production method, and the expenditure method. Both methods have been used in recent years in preparing estimates for the United Kingdom. The procedures used in each of the two methods, and the relations between them, may now be described.

The production method consists in adding together the net contributions of all industries to the gross domestic product (i.e. net output, including depreciation), valued at base year prices. The result may be regarded as a weighted quantity index, in which the weights represent the contributions of each industry to the gross domestic product in 1948 and the year to year changes in output are represented by direct measures of changes in the quantities produced (or, in some cases, by the estimated value of output at 1948 prices). All industries are included, irrespective of whether they produce raw materials or intermediate products for use by other industries, or goods for final use in investment or consumption, or—as often happens—some combination of these. The expenditure method, on the other hand, consists in estimating all the components of final expenditure on goods and services—consumers' expenditure, public authorities' current expenditure, investment in fixed capital and stocks, and imports and exports—at constant prices. If complete, accurate and detailed information about all transactions were available, the two methods should, in theory, lead to the same answer.

The results obtained by the two methods, though not the same, are in close general agreement, as the following table shows:

Indices of the gross domestic product at 1948 factor cost
(1948=100)

	1946	1947	1948	1949	1950	1951	1952	1953	1954
Expenditure method	95.2	96.6	100	104.2	106.6	111.0	110.6	114.7	119.8
Production method	94.6	95.5	100	104.4	108.6	111.4	110.0	115.1	120.4

Source: Blue Book, 1955, Tables 12 and 13

A detailed reconciliation of the two sets of results would be possible only if sufficient information were available to determine the contribution of each industry to each item of final expenditure. It would be necessary to have a very detailed input-output matrix for each year, in real terms. Since it is impossible at present to make this reconciliation, there is no way of determining which method is the more reliable, and one answer cannot be regarded as more accurate than the other.

In the absence of full and accurate information, there are various reasons why the two methods must be expected to give different results. In the production method, the object is to measure, in real terms, the change in the net contribution of each industry to the gross domestic product. It is seldom possible, however, to obtain a direct measure of changes in net output (i.e. gross output *minus* input) and sufficient information is not normally available to enable both gross output and input to be estimated in real terms (i.e. at constant prices). In practice, therefore, the change in net output is generally represented by a measure which relates to gross output, including the contributions of earlier stages of production. Any change, therefore, in the ratio of net to gross output would result in the measure being, to that extent, inaccurate. For example, if a manufacturing firm decides to install its own electricity generating plant, the resulting increase in its net output would not be reflected in the measure of gross output of manufactured goods. Changes in the ratio of net to gross output can also be caused by changes in the amount

or quality of workmanship incorporated in the product; by economy or extravagance in the use of materials; by changes in the technical processes of production; by changes in the degree of integration of industry, which may affect the comparability between the classification of industries and the available statistics of gross output; or by changes in costs of advertising, or payments for other services, per unit of output. Precise information about such changes is not usually obtainable.

Moreover, even the figures of gross output are not generally available for every grade and quality in which each commodity is produced; and without this kind of detail it is difficult to compile accurate estimates of total output at constant prices. There may indeed be changes in quality or design from one year to another which are not susceptible of measurement; and sometimes, of course, entirely new commodities are produced. Difficulties of this kind are inherent in comparisons over time. In compiling the series for individual products it is frequently necessary to make approximations and adjustments because of discontinuities in the data.

In the expenditure method, also, it is often necessary to make assumptions and approximations. Changes in the quantities purchased are sometimes measured directly, and sometimes indirectly from money expenditure and estimated changes in prices. In either case, the basic data are seldom available in sufficient detail to enable separate estimates to be made for every individual homogeneous commodity; but unless such detail is available it is impossible to estimate the total accurately. It is difficult, in particular, to be sure that full account has been taken of changes in the quality of apparently identical products; and there may also be changes in the amount, or quality, of services purchased with the product, the accurate measurement of which is practically impossible. In addition, arbitrary assumptions usually have to be made about the proportions of certain items of consumption which are chargeable as business expenses, and which are not, therefore, part of consumers' expenditure. Furthermore, there is at present little information about physical changes in stocks, which therefore have to be estimated indirectly from estimates of changes in the value of stocks, and rather precarious estimates of stock appreciation. The estimate of the change in stocks and work in progress at constant prices is the least reliable component of the real expenditure estimates.

The production method is used in compiling estimates of the gross domestic product, subdivided by industry of origin, at constant factor cost. No attempt is made to estimate the gross domestic product, by industry of origin, at constant market prices since it is believed that such estimates are not required⁽¹⁾. The allocation of indirect taxes and subsidies between different industries producing the gross domestic product is, indeed, virtually impossible; there is no way of telling, when a commodity is produced, whether it is destined for the home market where it may be subject to indirect tax, or for export, or for use in the production of other commodities, in the process possibly attracting indirect tax or subsidy. The expenditure method is used in compiling estimates of the gross domestic product, subdivided by categories of final expenditure; these estimates are given both at constant market prices and at constant factor cost, as previously defined⁽²⁾.

⁽¹⁾ See J. L. Nicholson, 'National Income at Factor Cost or Market Prices?', *Economic Journal*, Vol. LXV (June 1955), p. 216.

⁽²⁾ See page 13.

Although the estimates obtained by the two methods are largely independent, every effort has been made, in applying the two methods, to achieve mutual consistency. Thus the same principles have been followed in measuring the output of, and the expenditure at constant prices on, all final goods and services; wherever a choice has had to be made between using one method of measurement, or one set of data, rather than another (e.g. physical quantities or deflated values), arbitrary differences have been avoided; and where estimates of expenditure at current prices are deflated for changes in prices, the price index is (wherever possible) of the Paasche type, i.e. based on current year's weights, since this is consistent with the Laspeyre type of quantity index, based on 1948 weights.

In a few instances, the same basic statistics have been used in both sets of estimates. But in general the two methods rest on different sets of entities (as explained above); it is only if an industry has no input that the two methods coincide. Thus an index of the change in real net output, at the last stage of production, would not be expected to show the same movement as an index of real expenditure on the final goods in question, which incorporate the output of earlier stages of production.

The use of the production approach

The production method starts from the estimated contributions of each industry to the gross domestic product in 1948, given in Table 14 of the Blue Book, 1955. These estimates are subdivided in the degree of detail necessary to provide corresponding estimates for the different sections of each industry, which are further subdivided in proportion to the estimated net output of each individual product. The base-year weights, so obtained, are the estimated values of output in 1948, excluding stock appreciation. It is then necessary to decide, in the light of the general principles mentioned above, the most suitable "indicator" to represent the movements in the output of each product. The practical aims in doing so have been to make full use of all the detailed information which is available, or obtainable, and to marry the indicators to the weights in such a way as to obtain the maximum coverage of each industry, while avoiding duplication.

The estimates from the production side incorporate the constituent indices of the official index of industrial production, which covers mining and quarrying, manufacturing industries, building and contracting, and gas, electricity and water; these industries together account for about half the gross domestic product. The classification by industries, although generally following the *Standard Industrial Classification*, is slightly rearranged in order to fit in with the estimates for industries which fall outside the scope of the index of production. In particular, the estimates for agriculture include certain ancillary services, such as livestock dealing and veterinary surgery. A special adjustment is also required for banking services: since the output of each industry incorporates the services of banking which it uses, and since it is not possible to estimate the banking services used by each industry separately, a single deduction is made for the input of banking services into industry as a whole.

The problems involved in measuring changes in the output of industries covered by the index of industrial production have been discussed in earlier

publications⁽¹⁾ which also contain full details of the statistics used in compiling the index. The application of the production method to industries outside the scope of the index of production relies heavily on the pioneering work in this field of the Department of Applied Economics of Cambridge University⁽²⁾. The material which they had collected for their earlier estimates, and the benefit of their advice and experience, were very generously made available to the Central Statistical Office.

For agriculture, estimates are made of the value of gross output at constant (1948) prices. Estimates are also made of the values of all items of input at constant prices. The difference between the estimate of total output and the estimate of total input, both at 1948 prices, provides the required index of real net output.

There remain the industries providing various kinds of services, namely: transport and communication; distribution; insurance, banking and finance; professional and miscellaneous services; and public administration and defence (Orders XIX to XXIV of the *Standard Industrial Classification*). In all these industries, the general aim has been to use, wherever possible, a direct measure of output in terms of the actual quantity of goods handled, or of services rendered, in conformity with the general principles outlined above (page 38). The services of retail distribution, for example, are measured by the volume of turnover; those of passenger transport by the number of passenger-miles, and of goods transport by the number of ton-miles; the services of insurance companies by the amount of cover provided or of savings held.

Similar measures are applied so far as possible to the services provided by public authorities. Thus the administration of national insurance is represented by the numbers insured and the numbers in receipt of benefit; the hospital services by the number of patients and the number of hospital staff; courts of justice by the number of cases tried.

Where no sensible measure of output is available, the indicator generally used is a combined index of labour employed and of the input of materials, obtained by deflating expenditure within the industry on wages, materials, etc., by indices of wages and of the cost of each main item of input. This method is applied to most of Central Government expenditure, as well as to certain local authority activities such as civil defence, child care, upkeep of libraries and museums, and expenditure on roads. Where separate figures of expenditure on the various kinds of input are not available, or appropriate price indices are not obtainable, output is represented simply by the manpower employed. The services of the Forces, of the police and of doctors in the National Health Service are all dealt with in this way.

It must be admitted that many of the indicators which are intended to represent changes in output provide only very rough measures of changes in the output of the industries in question. But even a crude measure of output is assumed to be preferable to an index based on the total cost, at constant prices, of the factors of production engaged in producing the output. The

(¹) Studies in Official Statistics: No. 1, *The Interim Index of Industrial Production*, H.M.S.O. (December 1948), and No. 2, *The Index of Industrial Production*, H.M.S.O. (October 1952).

(²) See W. B. Reddaway, 'Movements in the Real Product of the United Kingdom', *Journal of the Royal Statistical Society*, Vol. CXIII (1950); and C. F. Carter, 'Index Numbers of the Real Product of the United Kingdom', *ibid.* Vol. CXV (1952).

latter method is only used *faute de mieux*, e.g. in public administration, where it is difficult to conceive of any sensible measure of services rendered.

Full details of the weights and indicators used, together with further explanations of the methods used in particular industries, will be found in Appendix IV (page 353).

The expenditure approach

The methods used in estimating the various components of final expenditure at constant prices follow the general principles already described, and are so far as possible consistent with the measures of real output. A more detailed description will be found in the chapters dealing with the items in question.

There are various methods of obtaining estimates of real expenditure. The most usual method is that of deflating estimates of expenditure at current prices, derived from the original source, by an index of price changes. For a fair proportion of the components of expenditure, including nearly half of consumers' expenditure, the basic data consist of estimates of the actual quantities of goods purchased; the estimates of expenditure at constant prices are derived by attaching appropriate base-year weights to the indicators of quantity. A third method is used for services provided by public authorities and for some other service industries. Expenditure at current prices represents an actual money flow, while expenditure at constant prices is represented by an independent, and often somewhat arbitrary, estimate of changes in the quantity of services obtained.

It should be remembered that the price indices implicit in any comparison between estimates at current prices and estimates at constant prices will reflect the methods by which changes in quantity are measured. In some cases, movements in the implied price indices may not be the same as movements in actual prices charged, because the latter may not relate to identical commodities or services in every year. In other cases, for example many of the services provided by public authorities, the index of prices implied by the estimates is influenced by the arbitrariness of the measures of changes in quantity.

Reliability⁽¹⁾

As has already been implied, it is very difficult to judge the reliability of the estimates made by the production method, which must, however, vary considerably from one industry to another. The accuracy of indices of output depends, indeed, partly on how much output has changed and the following remarks are no more than a general guide. The estimates for agriculture, mining, manufacturing industries, gas, electricity and water, and transport and communication—at least those which depend on measures of output and not on measures of input—are probably the most reliable. The accuracy of indices of the output of these industries over periods of up to, say, five years may be described as good, and over longer periods as fair. The reliability of the indices for building and contracting must be described as poor. The indices of the output of distribution over relatively short periods (up to, say, five years, but depending partly on the extent of the changes) may be described as fair; for longer periods they must be regarded as poor. The reliability of the indices

(1) On the classification of errors, see page 34. For the estimated movements in output, the description of the margins of error must be interpreted as applying to the absolute error in the index, based on 1948 = 100. The terms "good", "fair" and "poor" are equivalent to the classifications A, B and C used elsewhere.

for the other four orders of the *Standard Industrial Classification* (insurance, banking and finance; public administration and defence; professional services; and miscellaneous services) varies a great deal between the different subdivisions of each group and depends, to some extent, on acceptance of the underlying concepts. For each of these groups as a whole, and allowing for compensation between errors in the estimates for constituent sections, the indices covering periods of not more than say, five years, may be regarded as fair. It must, however, be remembered that, outside the field of the index of industrial production, many of the estimates for the latest year and some of the estimates for the previous year may subsequently be revised, as the basic data gradually become available.

Because of uncertainties surrounding the process of deflation by price indices, the estimates of final expenditure at constant prices are likely to be less reliable than the estimates at current prices, except where the estimates at constant prices depend on direct measures of changes in the quantities purchased. The reliability of the estimates of changes in total consumers' expenditure at constant prices, over periods of up to, say, three years, may be described as good, and over longer periods as fair. The estimates of changes in public authorities' current expenditure on goods and services at constant prices, in periods when the changes are not very substantial, may be described as fair. The same probably applies to the estimates of changes in imports and exports of merchandise at constant prices; but those of other imports and exports are poor. The reliability of the estimates of changes in fixed capital formation at constant prices is poor; and the corresponding estimates of stocks and work in progress are very poor.

Chapter IV

The Organisation of the Blue Book Tables

The presentation in the Blue Book of the statistics of national income and expenditure follows so far as possible the systematic exposition of sector accounts described in Chapter II, but incorporates, in addition, a number of other tables which are not formally a part of the social accounting structure. The arrangement of the Blue Book, 1955, is as follows:

General tables

- I. *Summary tables*—This section contains the basic social accounts. Preliminary estimates for the first seven of these tables are given in the national income white paper which is published just before the Budget is presented to Parliament in March or April.
- II. *Output and expenditure at constant prices*—This section contains summary tables showing the major components of output (by industry groups) at constant factor cost and of expenditure at constant market prices and at constant factor cost.
- III. *Industrial input and output*—In this section are assembled certain tables showing an analysis of transactions by *industry* (as opposed to an analysis by sector), including a summary input-output table for 1950.

Sector tables

- IV. *Personal income and expenditure*—This section is devoted to a detailed analysis of certain aspects of the income, expenditure and saving of the personal sector. The main income and expenditure account of the personal sector has already been given in Summary Table 2.
- V. *Companies*—This section shows an appropriation account and an industrial analysis of trading profits for all companies.
- VI. *Public corporations*—This section gives operating, appropriation and capital accounts for public corporations.
- VII. *Central Government*—This section gives revenue and capital accounts for the Central Government.
- VIII. *Local authorities*—This section gives current and capital accounts for local authorities.
- IX. *Combined public authorities*—This section contains a detailed analysis of the expenditure of Central Government and local authorities combined, by type of service, together with some analysis of tax receipts.

Investment tables

- X. *Gross capital formation*—This group of tables brings together data on domestic fixed capital formation by sector, industry and type of asset, and on investment in stocks and work in progress by sector and industry.

The tables in sections IV to X, and the sources of information used, are described in detail in succeeding chapters of this book. Many of the tables in sections I-III are drawn from these fuller tables and are described in the relevant chapters. The following paragraphs give some description of the tables in section I-III, with special attention to those tables which do not receive full treatment elsewhere.

THE SUMMARY TABLES

Table I in the Blue Book contains a summary presentation of the national income and expenditure. One part of the table shows the expenditure flows which generate the gross national product, these flows being expressed at market prices but adjusted at the foot of this part of the table to factor cost. The other part shows the different kinds of income payment arising from the economic activities which result in production.

Gross national product in 1954

£ million

<i>Expenditure generating gross national product</i>		<i>Shares in the gross national product (factor incomes)</i>	
<i>At market prices</i>			
Consumers' expenditure . . .	11,854	Income from employment . . .	10,200
Public authorities' current expenditure on goods and services . . .	3,099	Income from self-employment ⁽¹⁾ . . .	1,645
Gross domestic capital formation: Fixed capital formation . . .	2,452	Gross trading profits of companies ⁽¹⁾ . . .	2,560
Value of physical increase in stocks and work in progress . . .	225	Gross trading surpluses of public corporations ⁽¹⁾ . . .	332
		Gross profits of other public enterprises ⁽¹⁾ . . .	113
Total domestic expenditure at market prices . . .	17,630	Rent ⁽¹⁾ . . .	744
Exports and income received from abroad . . .	4,152	Residual error . . .	- 5
less Imports and income paid abroad . . .	- 4,014	Total domestic income before providing for depreciation and stock appreciation . . .	15,589
less Taxes on expenditure . . .	- 2,476	less Stock appreciation . . .	- 75
Subsidies . . .	426	Gross domestic product at factor cost . . .	15,514
		Net income from abroad . . .	204
Gross national expenditure at factor cost (gross national product) . . .	15,718	National income and depreciation (gross national product) . . .	15,718

(¹) Before providing for depreciation and stock appreciation.

Source: Blue Book, 1955, Table 1

This table contains the elements of what was described as the "United Kingdom production account" (page 22). The table may be regarded as a consolidated account of the productive activity of the economy as a whole considered as a giant firm. The items of income may then be considered as payments by "the firm" to the different factors of production which it employs. These payments are carried forward as receipts into the income

and expenditure accounts of the different sectors and represent their whole receipts from *production* (to which may be added other receipts from grants and other unrequited flows). The items of expenditure are receipts by "the firm" from all sales of goods and services to final users. These sales are made, so to speak, to the sectors (including the rest of the world) purchasing goods and services and appear in their expenditure either on income and expenditure accounts or on capital account.

Some rearrangement of Table 1 is, however, required if it is to be used as a production account. Imports of goods and services, and taxes on expenditure, which appear in Table 1 as deductions from final expenditure at market prices, should be shown as payments by "the firm" to the rest of the world sector and to the public authorities sector, respectively. Consumers' expenditure abroad (tourists' expenditure, etc.) is not a sale from the United Kingdom production account or a payment out of this account, and must therefore be excluded from consumers' expenditure and from imports. Property incomes paid to and received from abroad are treated as transfer payments and do not flow through the United Kingdom production account; they are therefore omitted. Purely as a matter of convenience stock appreciation is treated as a sale by "the firm" and not as a deduction from incomes.

Table 1 of the Blue Book, rearranged in the form of a production account, is shown in the table below. It is set out in more detail in Table 9 of the Blue Book (described on page 48), where the flows between the production account and each of the sector accounts are displayed.

The United Kingdom production account, 1954

£ million

<i>Receipts from sales to:</i>		<i>Payments to:</i>	
Consumers' expenditure at home	11,685	Income from employment	10,200
Public authorities' current expenditure on goods and services	3,099	Income from self-employment	1,645
Gross domestic capital formation	2,677	Gross trading profits	3,005
Stock appreciation	75	Rent	744
Exports of goods and services	3,536	Residual error	— 5
Subsidies	426	Imports of goods and services	3,433
		Taxes on expenditure	2,476
Total receipts	21,498	Total payments	21,498

Source: Blue Book, 1955, Table 1 and, for imports and exports of goods and services, Table 7. Consumers' expenditure abroad (given in Table 21) is, however, excluded from imports and from consumers' expenditure.

Table 1 as set out in the Blue Book, however, is designed as a summary table of all the main flows leading up to the total of gross national product (at factor cost) which is generally regarded as the most significant aggregate. The aggregates shown in the production account above, on the other hand, have no particular significance in the system.

Summary tables 2-7 need not be described at length since they are all explained in detail in subsequent chapters.

Table 2—Personal income and expenditure—this is the income and expenditure account of persons (see page 58).

Table 3—Corporate income appropriation account—the combined appropriation accounts of companies (see page 146) and public corporations (see page 173).

Table 4—Revenue account of Central Government—the income and expenditure account of Central Government (see page 192).

Table 5—Current account of local authorities—the income and expenditure account of local authorities (see page 234).

Table 6—Combined capital account—this table brings together in very summary form the capital account of all sectors. It is an abbreviated version of Table 45 which is explained on page 276.

Table 7—Transactions with the rest of the world—this is a combined account (incorporating items from the United Kingdom production account and from the income and expenditure and capital accounts of the domestic sectors) setting out in very summary form the principal elements in the balance of payments (see page 341).

The remaining summary tables 8-10 serve various special purposes, and are described below.

Table 8. Shares in the gross national product

This table presents two alternative analyses of the distribution of the gross national product between categories of income. The right-hand side of the table on page 46 (Table 1 in the Blue Book) shows the gross incomes received by factors of production before redistribution through transfers, payments of interest and dividends, or taxes on income. For some purposes it is more convenient to show the distribution of the gross national product after such transfers. In the first part of Table 8, therefore, factor incomes are still shown before deducting taxes on income, but transfers in the form of current grants from public authorities (national insurance benefits, etc.) and receipts of rent, interest and dividends, are added to personal income; the income of companies and public corporations is then shown after payment of interest and dividends, and a negative income is shown for public authorities. In the second part of Table 8, the redistribution is carried a stage further; taxes on income are deducted from the income of persons and from the incomes of companies and public corporations. The income attributed to the personal sector thus becomes its disposable income after tax; and that attributed to companies and public corporations is equal to the gross saving of these sectors.

Table 9. Social accounts of the United Kingdom 1954

This table is intended to illustrate the mechanism of the social accounting structure rather than to provide new information. Each row in the table represents a form of money flow from one sector to another or from one account to another. Each of these flows appears twice in the table—as a payment by one account and as a receipt by another. The total of receipts in each row is therefore the same as the total of payments. Thus all factor incomes are shown as payments from the United Kingdom production account—the national “firm” imagined on page 22—to the productive sectors. Final expenditures are shown as receipts from sales by the production account (as in the table on page 47) to the various sectors. Transfer payments are shown as payments by one sector account to another.

Each pair of columns in the table represents one account for one sector, except the first pair of columns which is the production account for the nation as a whole. A greater number of sectors could be shown; for simplicity the accounts for companies have been consolidated with those for public corporations, and the accounts for the Central Government with those for local authorities.

The table is not fully "articulated" (see page 25), since the payments of each sector are not divided according to the sector of origin, or the receipts by sector of destination. Full articulation is not, in fact, possible. In particular, the information available does not permit the necessary analysis in the case of interest and dividends. For this item, estimates can be made of total payments and of total receipts by each sector; but it is not possible to estimate all the inter-sector flows (e.g., how much government debt interest is paid to persons and how much to companies).

Table 10. Gross national product by industry

This table shows the gross national product divided by industry of origin; it shows the "value added" by each industry (including provision for depreciation and stock appreciation), that is, its contribution to the gross national product *plus* stock appreciation. Stock appreciation is necessarily included in each industry's contribution because it is impracticable to divide it by industry. The analysis is shown again in more detail in Table 14.

Table 11. Gross national product by category of expenditure at factor cost

Final expenditure is here shown at factor cost (i.e., with taxes on expenditure subtracted and subsidies added). The table is derived from the estimates of expenditure at market prices; it thus involves allocating taxes on expenditure and subsidies between the various forms of final expenditure. Some of the difficulties of this operation are explained on page 104 and the allocation must be regarded only as an approximation. In particular, it is not practicable to allocate taxes and subsidies specifically to stocks; hence the factor cost of the increase in stocks is combined with that of fixed capital formation. The allocation of taxes and subsidies used in this table will be found in Table 44.

OUTPUT AND EXPENDITURE AT CONSTANT PRICES

Tables 12 and 13. Gross domestic product and expenditure at 1948 prices

Table 12 shows each major category of final expenditure valued at 1948 market prices and at 1948 factor cost. Table 13 shows indices of the gross domestic product at 1948 factor cost, which in general follow the *Standard Industrial Classification*. The methods of deriving these estimates are explained in Chapter III, page 37 et seq.

INDUSTRIAL INPUT AND OUTPUT

Table 14. Gross domestic product by industry and type of income

This table (which is an extension of Table 10) shows the composition by industry group of the gross domestic product and the forms of factor income originating in each industry. The total of factor incomes is divided where possible between wages, salaries, employers' contributions to national

insurance and to superannuation funds, etc., income from self-employment, gross trading profits of companies, and gross trading surpluses of public corporations and other public trading enterprises; the full analysis cannot, however, be estimated for every industry. Thus, in some cases, all forms of income from employment (wages, salaries and employers' contributions) are combined. In others, two or more forms of trading income (income from self-employment, company profits, trading surpluses of public corporations and other public trading enterprises) are combined. The treatment of rent is explained below under the heading "Insurance, banking and finance (including real estate)".

The total of factor incomes generated in each industry is identical with the excess of the value of the goods and services produced by the industry over the cost of goods and services used in production, no allowance being made for the depreciation of fixed capital. In this context, the value of goods produced is reckoned at factor cost, i.e. it excludes any taxes on expenditure paid by the producer and any subsidy received by him from public authorities is not deducted.

Definition of Industries

The definition of the various branches of industry in Table 14 follows the *Standard Industrial Classification*.

Agriculture, forestry and fishing—Order I of the *Standard Industrial Classification*.

Mining and quarrying—Order II of the *Standard Industrial Classification*.

Manufacturing—Orders III-XVI of the *Standard Industrial Classification*.

Building and contracting—Order XVII of the *Standard Industrial Classification*. Building work done by the direct employees of public authorities, and of undertakings in transport and communication, is not classified to those industries, but is included here. Building work done by the direct employees of gas, electricity and water undertakings is included under "Gas, electricity and water".

Gas, electricity and water—Order XVIII of the *Standard Industrial Classification*. See note to Building and contracting.

Transport and communication—Order XIX of the *Standard Industrial Classification*.

Distributive trades—Order XX of the *Standard Industrial Classification*.

Insurance, banking and finance (including real estate)—Order XXI (part) of the *Standard Industrial Classification*. For an explanation of these figures see Chapter VI, page 143. The industry of "real estate" in this table comprises income arising (a) from land and buildings *rented* by business concerns or by public authorities (even though the owner of the property may be a concern primarily engaged in some other industry, for instance a manufacturing concern), and (b) from buildings owned and used by public authorities (except trading bodies). It does not include imputed income from owner-occupation of trading properties; this is regarded as part of trading profits. Nor does the industry of "real estate" include income from the letting or owner-occupation of dwellings (which is shown separately); nor the rent

(paid or imputed) of farm land and buildings (which is included under "Agriculture, forestry and fishing"). See Chapter XII, page 332 for further explanation.

Other services—Orders XXIII and XXIV of the *Standard Industrial Classification*, other than public health and educational services, domestic services to households, and services to non-profit-making bodies, all of which are shown as separate "industries".

Public administration and defence—Order XXII of the *Standard Industrial Classification*. The services rendered are measured by the wages and salaries of civilian employees, pay in cash and kind of the Forces, and employers' contributions.

Public health and educational services—Health and education services provided by public authorities, measured by the wages, salaries and employers' contributions in respect of staff employed.

Ownership of dwellings—Income, actual or imputed, from the ownership of dwellings, and of property occupied by non-profit-making bodies.

Domestic services to households—These services are measured by the wages and employers' insurance contributions paid in respect of domestic servants employed by private households.

Services to private non-profit-making bodies—The wages and salaries and employers' contributions in respect of staff employed by private non-profit-making bodies (e.g. charities, the universities, social clubs, etc.).

Table 15. Wages and salaries in manufacturing industry

This table, supplementing Table 14, provides further details of the distribution by industry of wages and salaries in manufacturing (defined as in the *Standard Industrial Classification*). Reference is made to it on page 85.

Table 16. Production accounts for selected industry groups

This table sets out the estimated value, at average 1948 prices, of the supply of, and the demand for, the products of several manufacturing industry groups for the years 1948 to 1954. It gives an indication of the relative importance of some of the different forms of demand and helps to explain the changes in production which have taken place over the period.

The figures of production refer to the value, at factory prices, of the output of each industry group measured free from duplication; that is to say, the figures exclude that part of the output of each establishment sold to other establishments within the same industry group, but include the inputs from other industry groups or from imports of materials and semi-finished goods. The figures shown for imports relate to retained imports of comparable (or "competitive") manufactured products at c.i.f. values. The data available do not permit a complete analysis of demand and the item "other domestic use" is derived as a residue; it includes public authorities' current expenditure for some groups, and investment in stocks and work in progress and industrial and business use for all the groups. It should be noted that investment in stocks and work in progress relates to the goods characteristically produced by the industry, whether held by the producing industry, by importers, by distributors, or by the purchasing industry.

The estimates for 1948 are derived partly from the census of production and partly from material used in compiling Table 17. The estimates for later years are derived mainly by applying appropriate indices of the volume of production, imports and expenditure to the figures for 1948. The definitions of the industries follow the *Standard Industrial Classification*.

Table 17. *Inter-industry relations, 1950*

Table 17 is a summary "input-output" table. One object of such a table is to display as fully as possible those "intermediate" transactions which disappear in reckoning the aggregates normally used in national income and expenditure statistics.

In this table the United Kingdom economy is divided into eleven major industries; estimates are given in respect of each industry (a) of its purchases, for use in current production, of the goods and services produced by each of the other industries, of the services of factors of production, and of imports, and (b) of the sales of its products to each of the other industries, to final buyers in the United Kingdom and to overseas buyers. The purchases of each industry are recorded in a column, its sales in a row. Purchases by personal consumers, public authorities, domestic capital formation and by overseas buyers occupy columns 13 to 17, while sales of imports, services of employees and the services of other factors of production occupy rows 12, 15 and 16 respectively.

The sum in column 20 of rows 15 and 16 (incomes generated in each industry) less the total in column 19 (stock appreciation) is identical with the total in column 18 (final output at market prices) less the sum in column 20 of rows 12 (imports) and 17 (taxes on expenditure less subsidies) and is equal to the gross domestic product at factor cost.

The figures relate only to purchases and sales of goods and services and exclude all purchases and sales of financial assets and all transfer payments.

The value of the output of each industry is measured at market prices and free from duplication, i.e. it excludes that part of the output of each establishment which is sold (or transferred) to other establishments within the same industry.

The value of the output of the distributive trades (part of column 10) is measured by the gross margin on the goods and services sold; it thus equals the incomes generated plus the cost of goods and services used in selling goods and services produced by other industries; it does not include the factory value of the goods distributed. In effect, manufacturers and overseas suppliers are regarded as selling their outputs to the industries or final buyers who buy from the distributor; the latter is treated as an agent who sells only his own services.

The value of the output of "other industries" is taken as equal to the incomes generated. Purchases of goods and services by non-profit-making institutions and public authorities are recorded in final demand as direct purchases from the appropriate industries by the final buyers.

Taxes on expenditure and subsidies are in general treated as being paid or received by the manufacturer selling the taxed or subsidised goods, i.e. as positive or negative inputs respectively. Thus the duty on tobacco is included as a positive item, and subsidies on food as a negative item, in

row 17, column 6. For consistency with the treatment of transport and distributive services, however, purchase tax, and customs duties on imported goods which enter directly into final output without processing in the United Kingdom, are treated as if they were paid directly by the final buyer. They therefore appear only in columns 13-15 of row 17. Rates and some miscellaneous taxes such as dog licences, motor vehicles duties and land development charges are also included in these columns.

"Sales by final buyers" (row 13) include (a) sales by persons and public authorities to other final buyers in the United Kingdom, to overseas buyers and to industry, and (b) sales of second-hand vehicles, plant and equipment to industry for scrap or to persons or for export.

All sales and purchases are measured in terms of seller's value (the amount received by the seller) as distinct from purchaser's value (the amount paid by the purchaser). Transport and distribution charges, equal to the excess of the purchaser's value over the seller's value, are considered as sales by "other production and trade" to the purchaser. Thus sales by "other production and trade" to persons comprise (a) personal expenditure on travel, communication services, entertainments and other services and (b) the value of the services rendered by transport and communication and the distributive trades in handling goods purchased by persons from industry and in handling imports entering directly into personal consumption without undergoing processing by the manufacturing industries.

The value of the change in stocks and work in progress (column 16) and stock appreciation (column 19) together represent the change in the value of stocks of goods *produced* by the various industries or imported. They therefore differ from the figures shown in Table 53 which represent the change in the value of all kinds of stocks held by the various industries.

The industry groups used in Table 17 correspond to those in Table 14 (see page 50)(¹).

Industry 10, "other production and trade", consists of transport and communications; distributive trades; insurance, banking and finance; and other services. Industry 11, "other industries", consists of public administration and defence; public health and educational services; ownership of dwellings; domestic services to households; and services to non-profit-making bodies.

Much of the data used in compiling this table is derived from the Censuses of Production for 1948 and 1950, but a variety of other sources is used. These include detailed estimates of agricultural output and input prepared by the Ministry of Agriculture in connection with their estimates of farmers' income (see page 93); the estimates of the output of the building and civil engineering industries prepared by the Ministry of Works and published in the *Monthly Digest of Statistics*; the *Trade and Navigation Accounts* which provide details of the commodity composition of merchandise exports and imports; and the balance of payments white papers (together with unpublished information) for details of exports and imports of services. Considerable use is made of the estimates given elsewhere in the Blue Book. For example, the figures of

(¹) It should be noted that Industry 8, building and contracting, includes the value of work done by opencast coal mining contractors, which is treated as a sale to Industry 2, mining and quarrying.

incomes by industry of origin are based on the estimates given in Tables 14 and 15 and many of the estimates of expenditure by final buyers at factory prices are derived from corresponding estimates at current market prices.

The table must be regarded as provisional and will be superseded when the much more detailed analysis of inter-industry relations for the year 1948, at present being prepared by the Department of Applied Economics of the University of Cambridge, in conjunction with the Board of Trade and other government departments, is completed.

Table 18. Total requirements per £100 of final demand in 1950

Table 18 sets out the input/output coefficients obtained by inverting a matrix derived from Table 17. In the upper part of the table, the entry in row p (a typical row) and column q (a typical column) represents the value of the gross output of industry p required to produce £100 of final output by industry q. In the lower part of the table, the entry in row i (a typical row) and column j (a typical column) represents the primary input required to produce £100 of final output by industry j. For example it appears that, in 1950, £100 million of final demand for the output of the metals, engineering and vehicles industry group required the following levels of gross output by this and other industries:

	£ million at 1950 prices
Mining and quarrying	3
Chemicals and allied trades	5
Metals, engineering and vehicles	102 ⁽¹⁾
Textiles, leather and clothing	2
Other manufacturing	8
Building and contracting	1
Gas, electricity and water	3
Other production and trade	17

and generated £12 million of imports, £86 million of incomes and depreciation and £2 million of taxes on expenditure.

It should be noted that the input/output coefficients derived for the year 1950 are not necessarily the same as those which might be obtained for a more recent year. Further, these coefficients, which relate to *average* input/output relations, are not necessarily the same as the *marginal* coefficients which would apply to changes in output.

In inverting Table 17, allowance is made for the element of stock appreciation included in the figures of gross trading profits. Where stock appreciation occurs on stocks which are both produced and held by an industry, the stock appreciation is deducted from the gross trading profits of the industry and from the value of the output of the industry. Where stock appreciation occurs on stocks held by an industry but which are products of other industries (including imports as an industry), the stock appreciation is deducted from the gross trading profits of the industry and the value of the industry's purchases is raised by a corresponding amount.

⁽¹⁾ Of this £102 million, £100 million is final output sold to final buyers, and £2 million is intermediate output sold by the metals, engineering and vehicles industry to other industries to enable the latter to produce the inputs required by the metals, engineering and vehicles industry.

Table 19. *Final output in terms of primary input in 1950*

The estimates in this table represent the *ultimate* primary input content, or "cost structure", of the different kinds of final expenditure in 1950. They show, for example, that the ultimate import content of the goods and services making up consumers' expenditure in 1950 was 21 per cent. of the total value of consumers' expenditure at market prices. This ultimate import content comprises (a) imported goods and services treated in Table 17 as purchases by consumers (row 12, column 13); these include both imports of consumer goods which undergo no further processing in the United Kingdom, such as bacon, or bottled wines, and direct purchases by consumers such as tourist expenditure abroad; (b) the import content of other goods and services bought by consumers; this includes both the more immediate import content of manufactured goods, such as the raw cotton in shirts or in the upholstery of motor cars, and the more remote import contents such as the imported feeding-stuffs used in the production of milk or meat and the imported pit props used for the production of coal for household consumption. They are derived, generally, by applying the average primary input/final output coefficients given in Table 18 to the figures of final output given in columns 13 to 17 of Table 17. As no taxes on expenditure fall *directly* on exports, an adjustment is made to the primary input/final output coefficients applied to the export figures to take account of this.

Table 20. *The relation between changes in industrial output and final demand between 1948 and 1954*

In this table an attempt is made to show the relation between changes in final demand and changes in the net output of the industries covered by the index of industrial production which have taken place between 1948 and 1954. The changes in net output represent the contributions made by each industry to the change in the gross domestic product (at 1948 factor cost) between 1948 and 1954.

The estimates are derived, generally, from Tables 12, 13 and 16 with the aid of the input/output coefficients given in Table 18. In several cases, however, it was found that direct application of the average coefficients for 1950 to the changes in final demand between 1948 and 1954 gave results inconsistent with the known changes in output. In these cases it was necessary to adjust the figures.

The value of the net output (including provision for depreciation and stock appreciation) in 1948 of the industry groups covered by the index of industrial production (mining and quarrying; manufacturing; building and contracting; gas, electricity and water) is shown in Tables 10 and 14.

Chapter V

Personal Income and Expenditure

1. GENERAL DESCRIPTION

The accounts of the personal sector⁽¹⁾ relate primarily to the income and expenditure of households and individuals resident in the United Kingdom, as distinct from corporate businesses or organs of government. But the personal sector is extended beyond the accounts of households and individuals to include two other elements:

a. *Private non-profit-making bodies.* These comprise charities, clubs and societies, trade unions, friendly societies, churches, the universities and some independent schools. (Co-operative societies and building societies are not included here, but are treated as corporate businesses.) Such bodies are regarded as groups of persons acting collectively for mutual benefit; thus only that part of their income which is derived from other sectors—mainly income from property or investments—is included in personal income. Their expenditure on goods and services, chiefly the pay of their employees, is treated as part of personal expenditure. Personal gifts to, or by, such bodies are excluded both from the income of the recipient and from the expenditure of the donor, like gifts from one person to another. Gifts to such bodies from other sectors should be included in income or in capital receipts; in fact, gifts from public authorities, such as government grants to universities and schools, are included in personal income, under grants from public authorities, but there is not enough information to include gifts from other sectors (such as gifts by companies to charities). The accounts of non-profit-making institutions serving other sectors (e.g., trade associations and private research associations established by industry) are consolidated with the accounts of the sector concerned.

b. *Life assurance and superannuation schemes.* The life funds of the assurance companies (ordinary and industrial) are regarded as the collective property of the policy holders. Personal income thus includes only the income of the life funds from investments and other property; it does not include the annuities and other benefits received by persons because these are regarded as transfer payments within the personal sector. Consumers' expenditure includes only the administrative costs (wages, commission, rents, etc.) of life assurance, together with the share of profits allocated to shareholders; it does not include the premiums as such. Thus the increase in life funds, so far as it arises from an excess of premiums and property income over annuities, other benefits, administrative costs and shareholders' profit, (but excluding changes in valuation of assets) must be regarded as a constituent of personal saving. The same principles are applied to superannuation or pension schemes organised by businesses or public authorities for their

(1) "Households and private non-profit institutions" in the terminology of the U.N. *System of National Accounts*.

employees. In these cases, however, it is necessary for consistency that the employers' current contributions to the schemes should be regarded as part of personal income; an estimate of such contributions is therefore included in income from employment.

The extension of the personal sector to include these two forms of private collective provision is satisfactory so long as interest is centred on the accounts of the personal sector as a whole. But the treatment conceals some redistribution of income within the personal sector. If it were possible to divide the personal sector between various classes (e.g. between rich and poor, or between young and old), it would probably be desirable to confine the sector more rigidly to individuals and households, and to establish separate sector accounts for the non-profit-making bodies and for life assurance (together, perhaps, with other forms of insurance as is done in some countries). Thus, personal income, in the presentation now adopted, includes elements of income accruing to persons which are not currently received in cash (employers' contributions to pension schemes and the property income of life funds and pension funds), and ignores some incomes which are in fact received (pensions and other benefits from life assurance and pension schemes).

An alternative arrangement of the income and expenditure account of persons, designed to show the distinction between direct income from current work and property on the one hand, and, on the other, income from current grants, pensions, life assurance benefits, etc. (some of which may be regarded as deferred income from work or property), is given in Blue Book, 1955, Table 26.

The following pages (58 to 71) describe in general terms the various categories of personal income and expenditure (for convenience, treating direct taxes and saving under the heading of expenditure), and other data in the Blue Book relating to the personal sector. Full descriptions follow of the sources of information used for estimating each of the three major items—income from employment, income from self-employment, and consumers' expenditure.

2. THE BLUE BOOK TABLES⁽¹⁾

The main table for the personal sector—the income and expenditure account of persons—is Table 2 in the Blue Book. This brings together all the items of personal income and expenditure, as follows:

Personal income and expenditure, 1954

£ million

Income before tax		Expenditure	
Wages	6,170	Consumers' expenditure . .	11,854
Salaries	3,095	Remittances abroad (net) . .	9
Pay in cash and kind of the Forces	335	Taxes on income:	
Employers' contributions:		Payments	1,214
National insurance	248	Additions to tax reserves . .	72
Other	352	National insurance contributions .	532
		Total current expenditure . .	13,681
Total income from employment .	10,200	Balance: saving before providing for depreciation and stock appreciation	863
Professional persons ⁽¹⁾	263		
Farmers ⁽¹⁾	378		
Other sole traders and partnerships ⁽¹⁾	1,004		
Total income from self-employment	1,645		
Rent, dividends and interest . .	1,678		
National insurance benefits and other current grants from public authorities	1,021		
Total personal income	14,544	Total	14,544

⁽¹⁾ Before providing for depreciation and stock appreciation.

Source: Blue Book 1955, Table 2

Income from employment⁽²⁾

This includes all wages and salaries, including certain forms of payment in kind, and the pay and allowances in cash and kind of the Forces *less* certain specific expenses of employment. It also includes payments by employers regarded as supplements to wages and salaries; these are (a) employers' contributions to national insurance and (b) employers' contributions to pension schemes, together with compensation payments for injury, etc. Income from employment, thus defined, represents nearly three quarters of total personal income. A further description is given on pages 74 to 80.

⁽¹⁾ References are to the Blue Book, 1955.

⁽²⁾ "Compensation of employees" in the U.N. *System of National Accounts*.

Income from self-employment⁽¹⁾

This is the income of persons from unincorporated businesses, namely farmers, professional people (but not those who are salaried), small shopkeepers, and other sole traders and partnerships. Such personal incomes, broadly those assessed to income tax under Schedule D as profits of a trade, profession or vocation, must be regarded as a combination of labour income and profits, and there is no way of distinguishing between these two elements. This is important because differences in the relative importance of these mixed incomes, currently nearly one-eighth of total personal incomes in the United Kingdom, may affect any comparison of the distribution of income between the factors of production from one period to another or between one country and another. It must also be noted that although these incomes are computed, as for income tax, after deducting all *current* business expenses (except provision for depreciation), they must cover not only the personal expenditure of the recipients but also any amounts retained in the business for the maintenance or expansion of their capital equipment and stocks. Hence, the total savings of persons necessarily includes an indeterminate amount of business saving as well as what is generally understood as personal saving. For a fuller description see pages 93 to 96.

Rent, dividends and interest⁽²⁾

This represents an estimate of the total property income received by persons. Rents are defined as receipts arising from the ownership of land and buildings (including the imputed rents of owner-occupied houses estimated in the way described on page 113), less expenditure on repairs and insurance. Dividends and interest represent the actual amounts received in the year (not the amounts payable out of the current year's earnings of companies, for which an estimate is made in the appropriation account of companies—see page 164). The major item is interest and dividends on securities of public authorities, public corporations and companies, resident and non-resident. The total also includes dividends on purchases from co-operative societies, interest on shares and deposits in building societies, and interest on bank deposits. All figures of income from these sources are estimated before deduction of tax.

Personal income from rent, dividends and interest appears as a single item in the Blue Book tables. This is because the data at present available do not permit any independent estimate of personal income from these sources. The total payments by each sector, other than the personal sector, of each category of rent, dividends and interest can be computed; the *total* receipts of rent, dividends and interest by each sector other than persons can also be estimated; the total net receipts by persons is then obtained as a residue, but cannot be subdivided⁽³⁾. It is, for example, impossible to estimate personal receipts of company dividends or of National Debt interest or of income on overseas investments. Like all figures obtained as residues,

(1) "Income from farms, professions and other unincorporated enterprises received by households" in the terminology of the U.N. *System of National Accounts*.

(2) "Income from property received by households and private non-profit institutions" in the terminology of the U.N. *System of National Accounts*.

(3) The receipts by the personal sector are shown net. But certain payments of interest by the personal sector to other sectors (principally interest on mortgage debt to building societies and interest paid to banks) are roughly estimated in Table 26 (see page 66).

the estimate of personal income from rent, dividends and interest cannot be regarded as accurate. The calculation is more fully described in Appendix 1, page 349.

The income from investments and other property of non-profit-making bodies serving persons, and of the life funds of assurance companies and of superannuation funds, is included here.

National insurance benefits and other current grants from public authorities

These incomes are all transfer payments, both to persons and to non-profit-making bodies, which are derived not by services to production, but by grants from the Central Government, including the National Insurance Funds, or from local authorities. Although this form of income is limited to *current* grants, these are taken to include death grants, injury benefits and post-war credits, which might be regarded as capital payments. But less ambiguous forms of capital grants, such as war damage compensation and war gratuities and pay credits awarded to demobilised members of the Forces, are excluded. The largest component of current grants, currently over half the total, is national insurance benefits; of the other items, the most important are family allowances, assistance grants, and war pensions and service grants. The complete list will be found in the Blue Book, 1955, Table 37 (grants from Central Government) and Table 40 (grants from local authorities), and they are described, under the various services provided by public authorities, in Chapter X.

These payments, with one exception, are confined to payments in *cash* as distinct from benefits in kind such as the provision of education or the services of doctors. The exception is that the net cost to public authorities of milk and welfare foods and of school meals, provided free or at subsidised prices, is included here as though it were a cash grant to persons. The allocation of expenditure of this kind between government and consumers presents some difficulty. A practical advantage of the treatment adopted here is that all expenditure on food for use by households is recorded under consumers' expenditure; the alternative treatment would mean that changes in the apparent level of consumers' expenditure on food would be affected by variations in the scale of provision of school meals and welfare foods, from which misleading conclusions could easily be drawn.

Analysis of personal income

The analysis of personal income by categories, as described above, is an analysis by types of income and not by types of recipients. A large proportion of persons receive more than one form of income; some wage and salary earners may receive both income from employment and income from national insurance benefits in the course of one year; probably a majority of persons in receipt of property income receive also income from some other source.

Consumers' expenditure⁽¹⁾

"Personal expenditure on goods and services" would be a more precise, although unwieldy, description of this item; "consumption", the term by

(1) "Private consumption expenditure" in the U.N. *System of National Accounts* and "consumers' expenditure on goods and services" in the O.E.E.C. *Standardised System*.

which the item is often loosely described, carries a number of misleading undertones. The essential points in a general definition of consumers' expenditure are:

a. It covers all expenditure by persons, including non-profit-making bodies, on goods and services for current personal use.

b. It thus excludes (although it can be estimated only very roughly) all "business" expenditure, that is: expenditure on consumer goods and services by businesses and public authorities which are reckoned as current costs of production; certain purchases by workers of tools or special clothing, which are deducted from employment income, as noted on page 76; and business expenditure on cars, meals, etc. which are allowed as costs before computing income for tax purposes of both employed and self-employed persons. The item does not, therefore, cover the whole of national expenditure on consumer-type goods and services.

c. It includes those durable goods which from the point of view of the individual's accounts might more appropriately be treated as "capital expenditure"—for instance, motor cars. The only exception is the purchase of land and dwelling-houses⁽¹⁾ and costs incurred in connection with the transfer of their ownership; these are treated as personal capital expenditure. It would indeed be possible to treat all personal purchases of durable goods as "capital expenditure", like houses; this would involve, firstly, reckoning as consumers' expenditure the annual value or benefit derived from such goods, which could be related to the rate of interest and of depreciation, and secondly, imputing a corresponding amount of income. This is in fact done for houses. But for houses there exists a basis for the imputation in the rents paid for houses which are let, and in the estimated annual values used for tax purposes. For other forms of durable goods the whole calculation would be purely fictitious. Although such imputations have been suggested, the common international practice is to reckon all consumers' expenditure, except that on the purchase of land and dwelling houses, as current expenditure. Nevertheless, in interpreting the pattern of consumers' expenditure and personal saving, the separation of purchases of durable goods from goods more rapidly consumed can be of great importance, and the items which might be regarded as "investment" goods are so far as possible separately shown.

d. Consumers' expenditure does not include free services, such as education and the health service, provided by public authorities. These are treated as current expenditure by public authorities—as collective consumption. But consumers' expenditure includes the cost of private purchases of analogous services (e.g. private education). A reduction in consumers' expenditure may thus be directly linked with an increase in the extent of public provision of such services⁽²⁾.

e. "Expenditure" must be understood as acquisition of goods rather than actual disbursements of cash in the period of account. It relates to the total value of goods acquired whether paid for outright or not. This is

⁽¹⁾ See page 10.

⁽²⁾ E.g. it will be seen from Table 22 of the Blue Book, 1955, that there was a significant reduction in consumers' expenditure, at constant prices, on "other services" in 1948 and 1949, which was largely due to the introduction of the health service at that time.

the only method of measurement possible from the available data. Thus consumers buying on hire purchase or other forms of credit are assumed to complete the transaction on the acquisition of the goods, although in fact much of the payment may occur subsequently. The goods acquired are valued at the total amount received by the retailer, including any excess over the cash price charged for credit sales. Hence consumers' expenditure may be said to comprise not only the cash price of goods bought but also the interest charge, and the administrative costs, on goods supplied on credit. Similarly, contributions to Christmas or holiday funds are not regarded as expenditure until goods or services are actually acquired. This treatment, of course, has a bearing on the measurement of personal saving. An increase in the amount of consumer debt outstanding will, other things being equal, reduce the amount of personal saving.

f. The estimate of consumers' expenditure should include purchases of second-hand as well as of new goods, *less* the proceeds of sales of used goods. The sale of second-hand goods *between* consumers does not in itself affect the total of consumers' expenditure. But the total must include purchases by consumers of second-hand goods from other sectors (e.g. of second-hand cars from business concerns, or of army surpluses from the government), and also the costs incurred in the transfer of used goods (dealers' margins and handling and reconditioning costs). The estimates of these elements of consumers' expenditure are very rough.

The estimates of consumers' expenditure are analysed into a number of categories of goods and services, and are presented in the Blue Book valued at current market prices, at constant market prices and at current and constant factor costs. The classification and the sources from which the estimates are made, are described on pages 97 to 141.

Net remittances abroad

This item represents net transfer payments by persons to the rest of the world in the form of emigrants' remittances, gifts, etc. The figure is taken directly from the white papers on the balance of payments (item 5: "Migrants' funds, legacies, private gifts (net)"). It includes some payments, for example, legacies and capital taken out by emigrants, which should strictly be treated as capital transactions. The item, although small, is shown separately in the accounts of the personal sector because it is the only example for which information exists of the category of transactions to which it belongs (voluntary transfers to other sectors).

Taxes on income

Taxes paid by the personal sector comprise part of the income tax and effectively all the surtax. They also include a small amount (£1 to £3 million) of profits tax payable by Lloyd's underwriters and farming companies⁽¹⁾ and, in respect of years before 1947, small amounts of profits tax and excess profits tax charged on sole traders and partnerships.

Tax deducted at source by companies, public corporations or public authorities on dividends and interest paid to persons is included here. Such taxes are regarded as falling on the persons receiving the interest

⁽¹⁾ Because the profits of the few farming companies are included in the income of the personal sector (see page 93).

and dividends, not on the companies or public authorities paying them. Thus persons are regarded as receiving dividends and interest payments gross, before deduction of tax. The estimate of tax payments by persons takes into account not the standard rates of tax which are deducted at source, but the actual taxes paid by persons, which are of course determined by the level of their total taxable incomes. Hence the amount of tax falling specifically on interest and dividends cannot be ascertained.

Most persons suffer income tax at the same time as they receive their income, by deduction from wages or salaries under "Pay-as-you-earn" (PAYE) or by deduction at source from interest and dividend payments. Accrual and payment of tax can therefore be regarded as simultaneous. Traders and professional men, on the other hand, are generally assessed, like companies, by reference to the profits earned in an earlier period (the method of estimation of tax accruing is the same as that used for taxes on companies, as described on page 166); it is therefore assumed that such persons, like companies, establish a reserve against future payments of tax, although it is doubtful whether many in fact do so. Surtax payments also lag behind the income by which the liability is normally measured. An estimate is therefore made of *additions to tax reserves* representing the excess of tax accruing on the year's income over actual tax payments, and arising wholly from incomes from self-employment and from other incomes chargeable to surtax. To treat total tax accruals as a charge against income before the amount of saving is calculated, although corresponding with accounting realities in the case of companies, may be regarded as somewhat fictitious in the personal sector; for some purposes it may be more realistic to treat the additions to tax reserves as a part of personal saving.

The estimates of personal tax accruals and payments are made by the Inland Revenue. Income tax payments are derived as a residue by deducting from total payments the estimated payments by companies, public corporations and foreigners. Surtax collection is separately recorded by the Inland Revenue. The reliability of the estimates of payments is good. The estimates of accruals and therefore of additions to tax reserves are dependent on the estimates of personal income, and their reliability is subject to much the same doubts.

National insurance contributions

This comprises contributions from employers, employed and self-employed persons (it will be remembered that employers' contributions have been added to wages, salaries etc. on the income side). National insurance contributions from all three categories are thus treated as a direct tax falling on the recipients of income from employment or self-employment, and not as a tax on the employer.

The sources from which the figures of national insurance contributions are derived are described on page 213.

Balance: saving before providing for depreciation and stock appreciation

This important element is obtained as a residue or balancing item; it is the difference between the estimate of total personal income on the one hand and the total of consumers' expenditure, remittances abroad, tax accruals and national insurance contributions on the other. Its accuracy,

therefore, depends on the accuracy of these other items in the personal income and expenditure account. There is a check on the figure, although not one ultimately independent of the residual method of calculation, in that the saving of the personal sector may also be regarded as the balancing item in the combined capital account (Blue Book, 1955, Table 6). It must be equal to the excess of gross capital formation (in fixed assets and stocks at home and by net investment abroad) over the aggregate saving derived from the other sectors⁽¹⁾. Thus, if the figure of the saving of the personal sector is wrong, there must be an equal error both in one (or more) of the other items of personal income or expenditure and in one (or more) of the other items in the combined capital account. If, for example, the increase in the value of stocks in a particular year were understated by £100 million, that error might imply an understatement of personal saving by £100 million, but only if personal income were also understated or consumers' expenditure or tax provision overstated, by an equal amount.

The possibility of some such double error is always present because the current estimates of several of the major items concerned depend in part on earlier estimates made for periods before 1948, when there was little direct evidence about fixed capital expenditure or stocks; capital expenditure and stocks were then largely obtained as balancing items, and relics of this earlier balancing process are still present in some items about which direct information remains weak. However, it is believed that the order of magnitude of all significant changes since 1948, in the major items on which the estimate of personal saving depends, is established from direct and reasonably reliable evidence. Hence it is possible that the absolute level of saving by the personal sector is open to significant error, but the estimates of changes in saving since 1948 are unlikely to be grossly erroneous.

In addition to the unreliability surrounding the figures of personal saving, the following considerations are important for interpreting them:

a. The estimates necessarily include not only "personal saving" as it might be generally understood, but also the whole saving of self-employed persons, although part of the latter, if it could be distinguished, might better be regarded as "business" rather than "personal" saving. The problem is that these two elements certainly cannot be distinguished statistically, and probably could not be distinguished by many of the persons concerned, even if access could be had to their accounts. There would be no way of dividing the income of the owner, even notionally, between "salary", "distributed profit" and "undistributed profit". Estimates can be made of the amount of fixed capital formation and investment in stocks by unincorporated enterprises, and it might be possible as a convenient hypothesis to regard these expenditures as a first charge on profits, leaving a balance that could be regarded as "personal" saving. This would not necessarily, however, bear much relation to reality since such capital formation may often be financed by borrowing from other persons or other sectors. A further consequence of the inclusion of the whole savings of unincorporated enterprises is that their incomes and savings

(¹) The residual error (being treated as a form of income not matched by identifiable expenditure) appears as a form of saving; the existence of the residual error may be regarded as showing that the estimates of capital formation and aggregate saving do not in fact balance perfectly.

include the capital gains or losses due to stock appreciation. An estimate for stock appreciation attributable to the personal sector is, however, made. Saving also includes provision for depreciation both by unincorporated enterprises and, in respect of houses, by owner-occupiers.

b. The estimate also includes the collective saving done by non-profit-making bodies, life assurance companies and pension schemes; the excess of their income from premiums, etc., and from property over benefits paid, administrative costs and stockholders' profits is included in personal saving (see pages 56 and 68).

c. Another difference from what might be the popular interpretation of "personal saving" is that saving by the purchase of durable goods (other than houses) is excluded since these purchases are treated as consumers' expenditure.

It will be found that national income statisticians in other countries where estimates of personal saving are attempted are confronted by similar problems. There are, certainly, ways in which the estimate of personal saving might be improved. The first way, which is constantly being pursued, is the improvement of the estimates of personal income and expenditure. The description of the sources used for measuring consumers' expenditure, for example, shows how this estimate, more than any other for the major magnitudes in the national accounts, must be built up brick by brick from a variety of sources. There is no adequate check on the aggregate other than the check afforded by the balance between national income and national expenditure in total. Hence some gaps and some duplications are almost inevitable. To build up these estimates of consumers' expenditure to a reliable total is important not only because the aggregate is significant in itself, but also because it is essential, in present conditions, for a reliable estimate of savings. This method of brick by brick estimating implies that considerable efforts may often be required to estimate individual forms of personal expenditure which are in themselves of little economic significance, but which must be measured solely to estimate total expenditure.

The second approach is a study of individual personal accounts by sample survey. A series of such surveys, in which saving is estimated from an analysis of changes in assets and liabilities, is being conducted by the Oxford Institute of Statistics and some results have been published⁽¹⁾.

The third approach is a statistical study of the changes in all forms of assets and liabilities held by persons. For many of these, reliable statistics exist (although in some cases there are difficulties in separating the assets held by persons from those held by other sectors). Many of these forms of saving (e.g. life assurance, superannuation schemes and repayments of mortgage debt to building societies) are to a great extent "contractual" in the sense that the saver enters into a long-term commitment. Hence these forms of saving—although they account for a very large proportion of total current saving—tend to be fairly stable from year to year and changes in them do not explain the significant fluctuations in total saving. The forms of assets

⁽¹⁾ See H. F. Lydall, *British Incomes and Savings*, Blackwell (1955), describing the first of these surveys (that made in 1952); and articles on this and subsequent surveys in the *Bulletin of the Oxford Institute of Statistics*, February 1955, May 1955, and August 1955.

most likely to be affected by substantial fluctuations in the level of personal saving probably include all forms of securities, cash and (for unincorporated businesses) short term assets and debts of various kinds. No comprehensive statistical sources at present exist from which changes in these forms of assets can be measured even approximately. An analysis of changes in personal holdings of the limited range of assets and liabilities for which estimates can be made is given in Table 27 (see page 67).

OTHER TABLES RELATING TO THE PERSONAL SECTOR

Table 2, showing income and expenditure of the personal sector, is the only table for the personal sector that can be regarded as one of the standard "social accounts". The other Blue Book tables relating to the personal sector (Tables 21-28) are designed to show in more detail particular aspects of personal transactions.

Consumers' expenditure (Tables 21-25)

A series of tables is provided showing consumers' expenditure in detail. The general definition of consumers' expenditure is given on page 61; the system of classification and the methods of estimation are described on pages 97 to 141. The tables show consumers' expenditure, in detail:

at current market prices	.	.	Table 21
at 1948 market prices	.	.	Table 22
at current factor cost	.	.	Table 24
at 1948 factor cost	.	.	Table 25

The indices of market prices (1948=100) are also shown for each category of expenditure in Table 23; the significance of these price indices is explained on page 104.

Categories of personal income (Table 26)

This table is an alternative method of classifying personal income to that given in Table 2. Table 26 is designed to distinguish (a) cash income from imputed income and income in kind; (b) pensions and other benefits from life assurances, superannuation schemes, etc., on the one hand, from income derived from work and property on the other; and (c) the income of households from the income of "collective persons". The object of the third of these distinctions cannot be fully realised; because of lack of information, the incomes of non-profit-making bodies cannot be distinguished from the income of households so that it is possible to show separately, among "collective persons", only the life funds, superannuation schemes, etc.

Some of the items in Table 26 require further explanation:

a. *Rent, dividends and interest.* In Table 2, only a single net figure of receipts less payments of income from rent, dividends and interest is given. In Table 26, a rough estimate is given of interest payments by households (principally mortgage interest and interest on bank advances but excluding interest on hire purchase debt); the receipts are divided between those accruing to households and non-profit-making bodies, rent of owner-occupied

houses, accrued interest on National Savings Certificates, and property income of life assurance, superannuation schemes, etc.

b. *Imputed income and income in kind* are, as far as possible, distinguished from the *cash income* of households (including the Forces) and non-profit-making bodies.

c. *Pensions and other benefits* (including lump sums) received from life assurance, superannuation funds, etc. are shown separately in Table 26. In the system of accounts used elsewhere in the Blue Book (e.g. in Table 2), such receipts are not treated as personal income. Instead, the life funds of assurance companies and the funds of superannuation schemes are regarded as part of the personal sector; hence, employers' contributions to such funds and the property income received by the funds are treated as part of personal income, and their administrative costs, including the profit accruing to the shareholders, are treated as part of consumers' expenditure; payments of contributions, premiums and benefits are regarded as transfers within the personal sector.

d. *Retirement pensions* and similar payments by public authorities are also shown separately. A comparison can thus be made between the various kinds of pensions and the payments made to employees for their current contribution to production.

e. *Adjustment for life assurance, superannuation schemes, etc.* The total income of households and non-profit-making bodies, including pensions and other benefits from life assurance, superannuation schemes, etc., as shown in Table 26, exceeds, or falls short of, total personal income as defined in Table 2 by the extent to which such pensions, etc. exceed, or fall short of, receipts by life assurance, superannuation funds, etc. from employers' contributions and property income.

The figures for pensions and other benefits from life assurance, superannuation schemes, etc. include lump sum payments, payments to widows and dependants, surrenders, etc., so far as ascertainable, as well as annuities to policy holders and retired employees. Life assurance includes industrial as well as ordinary business, and collecting societies. Existing information does not permit a more detailed analysis.

As pointed out on page 77, employers' contributions to superannuation and other pension funds are regarded as equal to pensions and other benefits actually paid in the year in the case of unfunded schemes (principally the superannuation schemes for national government service and retired policemen and firemen). Compensation payments by employers to injured employees or their dependants are also included.

The sources and methods used in the analysis of superannuation schemes are described on pages 77 to 79. The estimates for life assurance transactions are derived from the summary accounts of insurance companies and collecting societies, published in the *Annual Abstract of Statistics* (e.g. *Abstract, 1955*, Tables 321 and 325).

Capital account of the personal sector (Table 27)

Some identifiable elements in the capital account of the personal sector are shown in this table. These represent changes in the amounts of various kinds of physical and financial assets and liabilities held by the personal

sector, which includes unincorporated businesses, non-profit-making bodies, the life funds of assurance companies and the funds of superannuation schemes, etc., as well as households and individuals.

The net increase in assets (excluding capital appreciation of existing assets) of the personal sector, shown in the upper part of the table, is derived from the estimates of personal saving in Table 2, adjusted for capital transfers and for stock appreciation of unincorporated businesses. Capital transfers received by the personal sector are mainly war damage compensation and other grants from the Central Government described on page 204. The only capital transfer payments are the taxes on capital described on page 194.

It is clear that the figures in the rest of the table, showing identifiable changes in assets and liabilities, are far from complete. The table is not, therefore, a complete analysis of the capital transactions of the personal sector, but only a set of estimates of some of the channels of personal saving.

Assets and liabilities for which no estimates can be made include: (a) holdings of securities (except those included in National Savings and building society shares and deposits, and except securities held by life funds and the funds of superannuation schemes, etc.); (b) transactions in existing fixed assets between sectors; (c) net bank deposits and trade credits or debts of unincorporated businesses; (d) holding of currency; and (e) consumer credit; since the estimates of consumers' expenditure relate to the full value of goods acquired (including credit charges) any increase in the amount of consumer debt outstanding represents an increase in the liabilities of the personal sector and would, if reliable estimates were available, be shown as a negative quantity in the table.

The increases in assets of the personal sector are derived as follows:

Gross domestic capital formation. The basis of the figures is described on pages 306 and 322.

Liquidation of debt to building societies. The figures are derived from the summary of accounts of building societies published in the *Annual Abstract of Statistics, 1955* (Table 332).

Life assurance, superannuation schemes, etc. The scope of the figures for this category is the same as in Table 26. The net increase in funds, representing savings arising from the transactions of each year, is derived from the balance of the items of receipts and payments shown in the table, and is not necessarily equal to the increase in the book value of the funds. "Administrative costs" include expenses of management, commissions and shareholders' surplus and tax.

National Savings. This comprises deposits in the Post Office and Trustee Savings Banks, National Savings Certificates and government securities on the Post Office Register. This differs from "Central Government borrowing through National Savings" shown in Table 38 because the latter excludes changes in deposits in the Special Investment Department of the Trustee Savings Bank which are not direct Central Government borrowing.

Building Societies: net increase in shares and deposits. The source is the same as that for "liquidation of debt to building societies".

Increase in net personal bank deposits. The figures are published by permission of the Committee of London Clearing Banks. They refer to the net deposits (deposit *less* outstanding advances) of persons as distinct from businesses, financial institutions and public authorities; they exclude however the net deposits of unincorporated traders, shopkeepers, farmers and professional men when their accounts are known to be used for the purpose of business. Deposits of non-residents are excluded.

It should be noted that the changes in some classes of financial assets may include changes in assets held by other sectors than the personal sector.

A summarised version of the capital account of the personal sector, together with that of other sectors, is shown in Table 45 (see page 276).

Distribution of personal income before and after tax (Table 28)

This table provides an analysis of personal income, from all sources, by ranges of total income before and after tax, and is based primarily on tax assessments. It is, however, impossible to allocate the whole income of the personal sector by income ranges, for a number of reasons:

a. Total personal income includes the investment income of non-profit-making bodies and life assurance, superannuation funds, etc. These forms of "collective" income clearly cannot be attributed to income ranges without detailed knowledge of the income distribution of contributors to these institutions.

b. There are other categories of personal income which are directly received by (or imputed to) individuals but where no information is available about the distribution of the beneficiaries by income ranges. These are: employers' contributions to national insurance and to pension schemes; any parts of employees' income (e.g. national insurance contributions and expenditure on tools) that are allowed to be deducted for income tax purposes; all income in kind except that of domestic servants; accrued interest on National Savings; dividends of co-operative societies; some grants to persons from public authorities; the excess of imputed income from owner-occupied dwellings over Schedule A valuations (see page 114); depreciation allowances deducted from the trading and professional incomes of persons; the difference between the personal incomes of farmers and the tax assessments under Schedule B (before 1949-50); and other income not included in the Inland Revenue returns including the allowances for unreported income (see page 96). All persons receiving income from any of these sources are believed to have other income, which is included in the allocation by ranges.

c. On the other hand, certain pensions, in particular those derived from schemes not arranged through life offices, are unavoidably included in the allocation by ranges although excluded (for reasons given on page 56) from the total of personal incomes.

Hence the income allocated by ranges is about 85 per cent. of total personal incomes. The unallocated balance might of course be allocated by arbitrary hypothesis, but it seems preferable to confine the table to those forms of income for which there is direct evidence of the distribution.

The table also shows the number of incomes. For this purpose the combined income of a married couple (as for tax purposes) is counted as one income. But juveniles receiving separate incomes, even though partially dependent on their parents, are treated as receiving separate incomes. "Inconsiderable" incomes are so far as possible omitted (i.e. incomes of less than £50, which would include, for instance, casual earnings of school-children for delivering newspapers, and some small investment incomes). The estimate of the total number of incomes is derived from the numbers in the working population, excluding married women, and the number of people not working but receiving income from pensions, investments and public grants. The estimate cannot be precise; on the one hand, there is some uncertainty how many incomes in the working population should be excluded as "inconsiderable", and, on the other, there is some overlapping between the numbers of recipients of different kinds of public grants, and between them and the working population. The number in the income tax field does not provide a check, for the number of workers with incomes (in the year) below the income tax exemption limit is not directly recorded.

The distribution of incomes above the income tax exemption point is based on income tax and surtax records. The Inland Revenue conducted "censuses" of personal incomes for the tax years 1937-38 (incomes over £200), and 1949-50 on a sample basis⁽¹⁾. Information is available every year from which to estimate the total number of incomes and the totals of personal income and of income tax, for all incomes over the tax exemption point, and the distribution of incomes above £2,000, which are liable to surtax. From this information deficiencies in the income censuses themselves can be corrected, and the distribution by ranges can be completed for census years and also for intermediate years. People who are below the tax exemption limit include most of the retirement and old age pensioners, a large number of juvenile and part-time workers and several other lesser categories; their total income is roughly estimated from, for example, the total amount of retirement pensions and the numbers and average earnings of juveniles, allowing for overlapping with the income tax field.

It will be noticed that the total amount of income tax and surtax payable by persons, as shown in Table 28, differs somewhat from the total of tax accruals in the corresponding years as shown in Table 2. The reasons for this difference are that in Table 28:

a. The incomes of life funds, non-profit-making bodies and other "collective persons", and certain other forms of personal income, are excluded from the table; the tax falling on these unallocable forms of income (chiefly the tax on life funds) is therefore excluded.

b. The rates of tax imposed by the Budget of the year are applied to the income of the whole calendar year, although in fact wages, salaries and dividends paid in the first quarter will have borne tax at the rates set by the previous Budget.

⁽¹⁾ 83rd and 94th *Annual Reports of the Commissioners of Her Majesty's Inland Revenue* (Cmd. 6769, 1946 and Cmd. 8436, 1952). Similar tables of income distribution for years after 1949-50 will be found in later Reports (e.g. 98th Report (Cmd. 9667, 1956) Tables 55 and 56). The Inland Revenue tables exclude incomes below the exemption limit and the unallocable income referred to.

c. The tax shown is the gross amount, before deduction of relief in respect of overseas taxation on income received from abroad and thus approximates to the combined total of United Kingdom and overseas tax.

Industrial analysis of personal income (Tables 14 and 15)

Income from employment is analysed according to industry. An analysis showing the contribution of each major industry group to the gross national product (Table 14) shows also the types of income by which this contribution is measured, divided where possible into wages, salaries and employers' contributions to national insurance and to superannuation schemes, etc. A more detailed analysis (Table 15) shows separately the wages and salaries (but not employers' contributions) in each of 14 manufacturing industries. A similar analysis by industry for income from self-employment is not made since there is insufficient information available about its industrial composition; thus for most of the industrial groups in Table 14, income from self-employment is necessarily combined with the gross trading profits of companies. An analysis of profit incomes charged to tax between companies and the self-employed ("individuals and partnerships") in industries classified by financial units, not establishments (and thus not completely comparable with Table 14 of the Blue Book) is, however, shown in each recent annual report of the Commissioners of Inland Revenue⁽¹⁾.

3. STATISTICAL SOURCES: INCOME FROM EMPLOYMENT

To those receiving income from employment, this income is the reward for labour services contributed to production; to producers paying the income, it is the cost of obtaining those services. To these two ways of conceiving income from employment there correspond two kinds of analysis: the first leads to a division of total income from employment between forms of income—wages, salaries, pay of the Forces etc.; the second leads to a division of the total by industry of origin.

FORMS OF INCOME

The forms of income described as income from employment are as follows:

- a. Wages and salaries in cash, comprising amounts paid in cash by employers to employees *plus* any amounts deducted at source on behalf of employees for payments of tax *less* any payments by employers to employees for expenses incurred as part of their employment.
- b. Directors' fees.
- c. Pay, cash allowances and income in kind of the Armed Forces, auxiliary women's services and the reserve forces.
- d. Income in kind of civilian employees, comprising goods and services supplied by employers to employees free or at less than cost.
- e. *less* Expenses of employment recognised for tax allowances (e.g. for tools and clothing).
- f. Employers' contributions to national insurance. (Employees' contributions are regarded as paid out of their cash earnings.)

(¹) E.g. the 97th Report (Cmd. 9351), in Tables 31 to 48, gives figures for assessments made in 1952-53.

g. Employers' contributions to superannuation schemes.

h. Certain compensation payments to employees for losses sustained in the course of their employment.

The table below shows how the estimates of income from employment for 1951 were built up from these eight different types of payments.

Analysis of income from employment, 1951

£ million

	<i>Wages</i>	<i>Salaries</i>	<i>Forces' pay</i>	<i>Employers' contributions</i>	<i>Total</i>
a. Wages and salaries in cash . . .	5,076	2,484	—	—	7,560
b. Directors' fees	—	105	—	—	105
c. Pay and cash allowances of the Forces	—	—	243	—	243
d. Income in kind	88	12	44	—	144
e. <i>less</i> Expenses of employment . . .	— 84	— 26	—	—	— 110
f. Employers' contributions to national insurance	—	—	—	205	205
g. Employers' contributions to superannuation schemes	—	—	—	248	248
h. Compensation payments etc. . . .	—	—	—	26	26
Total	5,080	2,575	287	479	8,421

Employers' contributions (items f-h) are treated as part of the price at which labour services are sold, as well as of the price at which they are bought, and are included in income from employment. Employers' contributions to national insurance are treated as though they were a tax deducted at source from the employees' income⁽¹⁾. Similarly, employers' contributions to superannuation schemes are treated as a part of employees' income which is compulsorily saved.

Distinction between wages and salaries

Only a limited importance can be attached to the separation of wages from salaries; in the national income statistics of most countries no attempt is made to divide these two kinds of labour income. But although the distinction is necessarily arbitrary, and although no clear dividing line can be drawn, it has certain practical uses.

The distinction is in fact made in some of the statistical sources largely because the processes of wage settlement are more highly organised than those for the determination of salaries. Indeed for many industries the available statistics of earnings and rates of pay relate only to the remuneration of wage-earners. Until the results of the post-war censuses of production became available, accurate information about salary earnings was confined to national government service and a few other industries. The similar distinction between "manual" and "non-manual" workers has been used in

⁽¹⁾ Employers' contributions to national insurance schemes were not included under income from employment in the United Kingdom official estimates until the white paper, 1951 (Cmd. 8203). The arguments for and against their inclusion are set out in the report of the League of Nations experts *Measurement of National Income and the Construction of Social Accounts* (1947), page 58. This report did not recommend their inclusion. Their inclusion is, however, now recommended in the U.N. *System of National Accounts*.

the past in connection with unemployment insurance (which until 1948 excluded "non-manual" workers over a certain income level) and for the assessment of income tax⁽¹⁾ until the institution of the "Pay-as-you-earn" (PAYE) system in 1944.

The distinction made in the Blue Book is derived primarily from that used in the census of production under which separate information on earnings is provided both for "operatives" and for "administrative, technical and clerical" employees. The census of production defines "administrative, technical and clerical" employees as including directors (other than those paid by fee only), managers, superintendents, and works foremen; research, experimental, development, technical and design employees other than operatives; draughtsmen and tracers, travellers and office (including works office) employees. Operatives are defined as comprising all other classes of employees.

For most industries outside the scope of the census of production little was known of the post-war proportions of wage-earners and salary-earners until the results of the one per cent. sample Census of Population, 1951, became available in 1952. These results provided material for a more accurate division of the working population between wage-earners and salary-earners, and were used for the first time in the Blue Book, 1953. So far as possible, the line of division for the industries outside the census of production has been drawn in accordance with the division used in the census of production.

Shop assistants do not fit easily into either category and have been treated by some authorities as wage-earners and by others as salary-earners. In the Blue Book, they are treated as wage-earners⁽²⁾. Policemen and firemen are also treated as wage-earners.

GENERAL METHODS OF ESTIMATION

The estimates of income from employment are made in two ways. In the first place, an estimate of *total* income from employment is made almost wholly from income tax data available to the Inland Revenue department⁽³⁾. This source is not, however, used for analysing the composition of income from employment, because no distinction is now made in tax assessments between wages and salaries and because the division of the tax assessment data by industries, although following the *Standard Industrial Classification*, is necessarily based on a classification of financial units, not of establishments. Other sources, notably the census of production and the statistics of the Ministry of Labour, can be used both to yield separate figures for wages and (although less comprehensively) for salaries, and to give an industrial classification based on establishments. Since some of these sources, especially the census of production, are used extensively for other major elements in the national accounts, it is desirable, for the sake of consistency, to use them for the estimates of income from employment by industry. If independent sources were available for all industries, a problem of reconciliation with the total derived from tax assessment data would no doubt arise. In fact, however,

(1) Before 1944, manual workers were assessed each half-year, on the basis of actual earnings, whereas others were assessed on the earnings of the preceding year.

(2) But they were treated as salary-earners until the Blue Book, 1953.

(3) Most of this material is published in the *Annual Reports of the Commissioners of Her Majesty's Inland Revenue* e.g. data for 1953-54 and earlier years in Tables 53 and 54 of 98th Report (Cmd. 9667, 1956).

there is little direct information about the wages and salaries in the final industry group "other services"; the wage and salary bill in this group is therefore taken to be the residual difference between the total derived from tax data and the sum of the independent estimates for all other industries.

Estimates of the numbers of persons in each industry, and of average earnings, are not given although in certain cases estimates of average earnings are in fact used to build up the total wage and salary bill. For some of the major industry groups it is impossible to identify at all accurately either the average number of persons receiving income from employment in the course of the year or (what may be very different) the total number of recipients. Because of differences in the definition of "numbers employed", and differences in classification, it is unsafe to divide the wage or salary bill given in the Blue Book by the numbers employed as reported in other sources (e.g. the Ministry of Labour's monthly statistics of employment). The main interest in the national accounts is necessarily in the aggregate wage and salary bill and, wherever possible, data about the total annual wage or salary bill are used in preference to data about weekly earnings per head. For information about average hourly and weekly earnings per head, reference should be made to the Ministry of Labour's statistics of average wage-earnings and standard rates or to the census of production.

The methods of estimating *total* income from employment are described below. The independent methods used for the analysis by industry, and for the division between wages and salaries, are described on pages 83 to 90.

TOTAL INCOME FROM EMPLOYMENT, AS ESTIMATED MAINLY FROM TAX ASSESSMENT DATA

The aggregate wage and salary bill

The growth of money earnings has brought the incomes of the majority of wage and salary-earners up to the level at which the "Pay-as-you-earn" (PAYE) system of tax collection operates (under which income tax is deducted at source by the employer). It has thus become possible to obtain reliable and almost complete information about wages and salaries paid in cash from the tax deduction cards sent by employers to local tax offices at the end of the financial year. The checking of the cards with employers, to ensure that they are complete and accurate, and the central collection and tabulation of the information on the cards, takes about ten to eleven months. This means, for example, that final figures relating to the financial year 1953-54 were not available until about February 1955. The estimates for the last nine months of the latest year shown in each Blue Book are, therefore, based on the change, as compared with the corresponding period of the previous year, in the *actual receipts of tax* under the PAYE system, adjusted to allow for the effects of any changes in rates or allowances. The error in these preliminary estimates, as revealed by the later revisions from the tax deduction cards, has not as a rule been large.

To arrive at a complete estimate of wages and salaries in cash, the following adjustments must be made to the figures derived from tax deduction cards :

a. *Earned incomes below the tax deduction limit.* The system of tax deduction described in the previous paragraph normally operates only for incomes above a specified limit which has varied in recent years. For

the financial year 1953-54, the limit was £3 5s. 0d. a week, or, for monthly paid employees, £13 10s. 0d. a month. These amounts are the approximate weekly and monthly equivalents of the minimum annual income on which any liability to tax can arise. Should the pay for any one period rise above the limit, a tax deduction card must be completed by the employer and the whole of the wages received in that year from the current employer will then be recorded, even though the wages in subsequent periods may fall below the limit. So long as the pay remains below the tax deduction card limit, the income is not recorded. The estimate of incomes below the limit, however, is based on an estimate of the numbers concerned and their average earnings. It covers chiefly the earnings of juveniles and women working part-time.

b. *Incomplete returns.* Tax deduction cards are not always obtained from farmers in respect of all their employees, or in respect of all domestic servants—most often because it is known that no tax has to be deducted even though the income may be above the tax deduction card limit. For these two groups, additions are made to the tax assessment data based on independent estimates for agricultural workers and domestic servants (see pages 84 and 90).

c. *Pensions.* Most pensions paid by employers to former employees are included on the tax deduction cards. These payments are not regarded as wages and salaries (see page 79) and an estimate of the amount is therefore deducted from the PAYE figures.

d. *Directors' fees.* These are also included, although not separately distinguished, in the PAYE figures. The separate estimate made of directors' fees is described below.

e. *Adjustment to calendar year.* The data from tax deduction cards are adjusted from a financial to a calendar year basis in the light of the trend of tax receipts during the year.

The table below illustrates the adjustments to the PAYE figures:

Adjustments to PAYE estimates of wages and salaries, 1951

	£ million
Original PAYE estimates, adjusted to calendar year	7,445
Earned income below the tax deduction card limit, other than in agriculture and domestic service	195
Income in cash of agricultural workers not covered by PAYE	35
Income in cash of domestic servants not covered by PAYE	70
less Pensions of retired employees included in PAYE estimates	— 80
less Directors' fees	— 105
Wages and salaries in cash, before deduction of tax	7,560

Directors' fees

The estimates are based on details, from the one per cent. sample of the 1951 Census of Population, of the number and distribution by industry of people of the status of "general managers, directors, etc.", and on the

assumption that the average directors' fee in 1951 in each industry was about £550 per annum. Comparable figures for other years were estimated by assuming that the amount paid in directors' fees changed proportionately to the salary bill. The estimates have little reliability.

Pay in cash and kind of the Forces

The estimates are compiled from returns furnished quarterly by the service departments on the same basis as the figures published subsequently in the *Appropriation Accounts*. The following payments in cash are included:

- a. Pay and cash allowances of British officers and men in the Navy, Army and Air Force (but not of colonial and Gurkha troops in the Armed Forces) whether on general service or serving in the Admiralty, War Office, Air Ministry or other government departments.
- b. Pay and allowances of members of the nursing services and women's services.
- c. Pay and allowances of reserve forces, and territorial and cadet forces.

Pensions and retired pay of former ("non-effective") members of the Forces are excluded, being treated, like other unfunded pensions, as "employers' contributions". Employers' contributions to national insurance are treated in the same way.

The income in kind of the Forces is measured by the cost of issues of food and clothing. Nothing is included for lodging.

Pay to members of the Forces on release leave, pensions and grants awarded for death or disability and extended service bounties are excluded from pay of the Forces and treated as current transfers by public authorities to the personal sector. Demobilisation gratuities and pay credits to troops demobilised after the 1939-45 war are treated as capital transfers.

Income in kind

Estimates of the following items are included :

- a. Board and lodging, food and other perquisites provided by farmers.
- b. Coal provided free or at concessionary rates to coal miners.
- c. Food and lodging received by domestic servants.
- d. Food and quarters received by merchant seamen and fishermen.
- e. The net cost to employers of meal vouchers, or meals provided in canteens.

Additional items might be included if more information were available. In general, all receipts in kind, such as the uniforms provided for many transport workers, might be included where they are of direct benefit to the employee (for example, by allowing him to reduce his own expenditure on clothes) and can be regarded as part of the employer's labour costs. The same applies to the special travel concessions enjoyed by many transport workers. Those receipts in kind which may be regarded as protection against the specific drawbacks of the job, should not, however, be included. The dividing line is difficult to draw in logic, and probably impossible to draw in practice. Hence a rather restricted definition is adopted here, which, in particular, excludes all clothing except in the case of the Forces.

Expenses of employment (deduction from income)

This item comprises the amounts allowed by the Inland Revenue, in charging income tax under Schedule E, as a necessary expense of employment. It covers expenditure by an employee, not refunded by an employer, on tools, special clothing and (in certain cases, such as commercial travellers), expenses of travelling in the course of the work, but not between home and work. The estimates are based on information provided by the Inland Revenue.

Employers' contributions to national insurance

The source of the estimates of the total of national insurance contributions paid by employers is described on page 213.

Employers' contributions to superannuation schemes

Employers' contributions to superannuation and pension schemes are treated as supplements to wages and salaries and thus as savings out of employees' current income. The pensions actually received by retired employees should therefore be regarded as a form of dis-saving and be excluded from personal incomes. Some employers, however, including the Central Government, pay non-contributory pensions to their retired employees, as and when they become due, without making current provision for future pension liabilities. It would be desirable in these cases to include in income from employment not pensions paid to past employees, but the currently accruing liability to pay pensions in the future to present employees. Unfortunately, no measures of this liability exist and as an unsatisfactory alternative the pensions currently paid are included instead in income from employment. These pensions (like contributions to funded pension schemes) are reckoned as a current expense by the employer, so that the balance between national income and expenditure is maintained. Employers' contributions to superannuation schemes thus consist predominantly of current contributions to schemes by employers, but include also an element of actual pensions paid out.

There are several kinds of contributory pension arrangements. Some are financed by a privately operated fund; others are financed by a scheme arranged with a life assurance company. (Small private funds often take cover against future contingencies with a life assurance company but are still considered as privately financed.) Pension arrangements may also be classified according to the tax treatment of the employees' contributions: there are "approved funds" under which the employees' contributions are treated as an expense and allowed in full; schemes arranged directly with a life assurance office under which only life insurance relief is given; and lastly, unapproved pension schemes where the contributions of both the employer and employee are taxed as the income of the employee, and tax relief is given only where due under the ordinary rules for life insurance relief.

For the Blue Books 1953 and 1954 the sources of information for employers' contributions to superannuation funds and schemes were, first, the Inland Revenue's sample income "census" of 1949-50 which gave the amount of employees' superannuation contributions claimed as expenses; secondly, information in the annual reports of the Life Offices Association which show

figures of the premium income from pension schemes of various types, but which do not distinguish between employers' and employees' contributions, nor between approved funds and other arrangements. By making assumptions as to the average ratio of employers' to employees' contributions, and as to the extent to which approved funds are included in the Life Offices Association reports, the Inland Revenue estimated the total of employers' contributions to schemes of all types in 1949. Figures for other years were estimated from this by reference to changes in the number of funds in existence, and to the changes in the numbers and earnings of employees. A high degree of reliability was not claimed for these estimates.

In 1954 two reports were issued which threw new light on the subject. The first, *The Growth of Pension Rights and their Impact on the National Economy* (a report by a Joint Research Group set up by the Institute of Actuaries and the Faculty of Actuaries in Scotland), surveyed all the available data in this field and produced estimates of employers' contributions to pension funds and schemes in 1951. The second, *The Report of the Committee on the Economic and Financial Problems of the Provision for Old Age* (Cmd. 9333), provided similar estimates of the position at the last valuation date for the great majority of funds (the valuation dates varied between 1948 and 1953). These reports showed that the estimates of employers' contributions made for the Blue Book 1954 were too low. This was because:

- a. no account was taken of the contributions by employers in respect of back service rights, valuation deficiencies, and interest deficiencies for which previously there had been no adequate information;
- b. the assumptions about the average ratio of employers' contributions to employees' contributions proved too low, both for private funds and for life office schemes;
- c. there was a deficiency in the 1949-50 income census for employees' superannuation contributions.

In the national income white paper for 1955 (Cmd. 9423) and the Blue Book, 1955, the estimates of employers' contributions to pension schemes were revised in the light of the new sources of information. On the basis of the two new reports, a new estimate was made for 1951. Estimates of employers' contributions to privately financed funds in respect of current service for years other than 1951 are based as before on changes in the number of funds in existence and on the numbers of employees and their earnings. Changes in the payments in respect of valuation deficiencies, interest deficiencies and back service rights are estimated by the Inland Revenue from an examination of the accounts of a number of large funds. Statistics of employers' contributions and pensions paid by public authorities and the larger public corporations are generally readily available from their published accounts.

The main constituents of the figure of employers' contributions to superannuation schemes in 1951 are as follows:

£ million

Contributions to superannuation schemes:

Public health and educational services	19
Local government service (excluding policemen and firemen)	19
General Post Office ⁽¹⁾	16
Privately financed schemes	85 ⁽²⁾
Schemes operated through life assurance companies	46

Actual pensions (including lump sums) paid:

National government service:

Forces	32
Civilians	14
Policemen and firemen ⁽³⁾	11
Private industry (notional figure)	6

Total 248⁽⁴⁾

The estimates of the various constituents are not sufficiently firm to warrant a detailed breakdown for each year. In all cases, the figures include (a) payments to widows and orphans where provision for such payments is incorporated in the scheme, and (b) lump sum payments as well as annuities.

Pensions (but not lump sums) paid by Central Government, by local authorities and by privately financed funds (but not payments direct to pensioners by life assurance companies) are included in the PAYE statistics of personal incomes if the pension is above the tax deduction card limit or if the pensioner has other income sufficient to produce some liability to tax. In estimating the wage and salary bill from PAYE statistics it is therefore necessary to make a deduction for such pensions (see page 75). Details of pensions which are included in the PAYE figures are known exactly for some pensioners, e.g. teachers in England and Wales, Metropolitan Police, G.P.O., etc. For many funds, however, the amounts included in the PAYE figures have to be inferred from knowledge of the average pension, and the proportion of pensioners included for those schemes where full details are known. The final estimates are thought to be fairly accurate at present because the privately financed funds, for which there is least information, account for only a small proportion of pensions paid.

Employers' compensation payments

Employers' compensation payments comprise compensation paid to injured employees or to their dependants in addition to that paid under the National Insurance scheme and Industrial Injuries scheme; compensation paid to former employees for loss of office; and compensation paid for personal injury to "third parties". These payments are most conveniently regarded as an operating expense and included as part of income from employment. An alternative treatment would be to regard them as current transfers; this would have the drawback that the payments would have to be treated as

⁽¹⁾ Although there is no funded scheme (and no contributions are made by employees) an estimate of the annual liability is entered in the Trading Accounts of the Post Office before striking the trading surplus.

⁽²⁾ Includes £28 million in respect of deficiency payments, etc.

⁽³⁾ Pensions paid less employees' contributions.

⁽⁴⁾ The same figure as in the table on page 72.

appropriations of profit. For the public corporations, estimates for these items are made on the basis of information given in their published accounts. For other enterprises it is possible to make only rough estimates of employers' liability on the basis of statistics relating to insurance business (as given in the *Annual Abstract of Statistics*).

ANALYSIS OF INCOME FROM EMPLOYMENT BY INDUSTRIES

As explained above, the division of income from employment between industries, and the separation between wages and salaries by industries and in total, are derived from a variety of sources independently of the estimate of total income from employment. These sources, and the methods used, are now described.

The census of production

For 1948 and each subsequent year a census of production has been taken covering mining and quarrying, nearly all manufacturing industries, building and contracting (except in 1950), gas, electricity and water and a few other industries. These censuses include statistics of numbers employed and annual earnings separately for "operatives" (wage-earners) and "administrative, technical and clerical workers" (salary-earners) which are the basis for the Blue Book estimates of the wage bill and salary bill in the industries covered by the census.

The figures derived from the census returns require a number of adjustments to conform with the framework of national income statistics. These adjustments apply to several uses of the census data in the Blue Book and are described in Appendix II (page 350). It is also pointed out there that the estimates made on the basis of the census for the two latest years shown in the Blue Book are provisional.

Other direct estimates of the wage and salary bill

Apart from industries covered by the census of production, the only groups for which direct and up-to-date estimates of total pay can be obtained from independent sources are dock labour (estimates from National Dock Labour Board), and the main branches of Central Government service—the Post Office, the national health service and non-industrial salaried staffs engaged in public administration and defence (for which estimates are obtained from the *Appropriation Accounts* or analogous returns). Partial estimates for certain other industries are also used (e.g. the accounts of the British Transport Commission) and, for 1950, the census of distribution provides a figure of the total wage and salary bill for this large group of trades about which comprehensive statistics had not previously been available.

Estimates based on numbers employed and average earnings

For the remaining industries, statistics of the wage and salary bills are compiled by making estimates, first, of the number of wage and salary earners employed, and secondly, of average earnings. This method is used for agriculture, most forms of transport and communication, distributive trades, insurance, banking and finance, local government service, professional services (except public health and education), and, in part, for miscellaneous services. Until up-to-date data became available from the censuses of production (first used in the Blue Book, 1953), the bulk of the wage bill for all

industries was estimated in this way; estimates of total salaries (which could not be accurately allocated by industries) were then computed from the difference between total wages thus calculated and the combined total of wages and salaries taken from the PAYE statistics.

The comprehensive and up-to-date source of information for *total numbers employed* is the regular Ministry of Labour statistics of employment⁽¹⁾; this is generally supplemented by the Census of Population, 1951⁽²⁾, to give the division between wage-earners and salary-earners which is not shown in the Ministry of Labour statistics. The Ministry of Labour's estimates of employment are derived from the exchange of insurance cards of persons insured as employees under the National Insurance and Industrial Injuries schemes. Under these schemes, employees in all industries, irrespective of age or rate of pay, are now covered by insurance⁽³⁾. From the exchange of cards, an estimate is made by the Ministry of Labour for the middle of each year of the total number of insured persons, in the category of employees, in each industry in the United Kingdom. By deducting the numbers registered at employment exchanges as wholly or temporarily unemployed at the same date, an estimate is made of the number employed. These estimates are kept up-to-date by monthly returns from employers of numbers employed (i.e. "on the pay-roll") which do not, however, apply to all non-manufacturing industries. When supplemented from other sources, these returns make possible an estimate of average annual employment in each industry.

Certain problems arise in using these statistics to form estimates of the wage and salary bill consistent with the census of production and other sources used here:

a. Since the *Standard Industrial Classification* was adopted in 1948, every effort has been made to insure that each establishment is classified to the same industry in the Ministry of Labour statistics, the census of production and all other relevant official returns, and adjustments have been made for any identifiable differences. Nevertheless, certain differences in the figures have not yet been completely resolved (probably arising from such problems as the classification of persons employed on building maintenance by establishments mainly concerned in other industries, or of canteen employees and of persons engaged in merchandising and transport departments). It is possible that the allowance made for small establishments which are not required to make full returns in the census of production may be too small. The net result, although there can be no certainty, is that the estimates used for compiling the wage and salary bill may be too low for the census of production industries. The controlling total of the aggregate wage and salary bill in all industries, derived from PAYE returns, means that this error would be offset by an overestimate of the wage and salary bill in the residual group "other services" (see page 90).

(¹) Published monthly for all industries in the *Ministry of Labour Gazette* and the *Monthly Digest of Statistics* (in more summary form). A description of the methods of estimation is given in the *Ministry of Labour Gazette*, February 1955.

(²) *Census 1951 Great Britain: One per cent. sample tables. Part I.* (1952.)

(³) Before 1948, persons over pensionable age, non-manual workers earning more than £420 a year, private domestic servants, the permanent staff of the railways, public utilities and local and Central Government, and some other categories, were excluded from the unemployment insurance scheme from which the employment statistics were mainly derived.

b. The average number employed, as derived from the Ministry of Labour statistics, is based on the number insured less those *registered* as unemployed. This is not necessarily the appropriate number by which to multiply the average wage or salary (as given in the sources described below) to arrive at the aggregate of wages or salaries paid during the year, because the average number employed, on this definition, is not necessarily the average number receiving pay. At any one time there may be persons with current insurance cards not registered as unemployed, and yet away from work because of sickness, trade disputes or voluntary absenteeism or because they are temporarily not seeking work. Also, the number of part-time workers is not now separately stated. In using these statistics for calculating the wage and salary bill, adjustments are made for the incidence of sickness. But a margin of error remains in the computation.

c. For many industries outside the census of production there is no information since the Census of Population, 1951 to show changes in the ratio of salary-earners to wage-earners.

The principal single source of data about *average wage-earnings* is the inquiry carried out by the Ministry of Labour each April and October⁽¹⁾. In addition to manufacturing, building and contracting and gas, electricity and water, these inquiries cover wage-earners in road transport (in part), public administration, laundries and dry-cleaning. The inquiries are voluntary, and the response, although high, is not complete in the industries covered. The returns show the aggregate amounts paid in the week of inquiry to wage-earners (including any bonuses and before deduction of tax) and the number of persons at work during all or part of the week. These figures are converted into annual average earnings by interpolation, using the Ministry of Labour's indices of changes in recognised rates of wages (allowing for the fact that average earnings change for other reasons than changes of wages-rates). Some error may be introduced here since no allowance can be made for seasonal changes in earnings. It is also assumed that the average rate of earnings is the same during holidays as in the rest of the year.

For the distributive trades, there is no information about average wage-earnings, and an estimate is made based on the recognised time rates⁽²⁾ for various classes of workers. Any such estimate is liable to substantial error because of ignorance of the distribution of workers between the various classes and the incidence of overtime and bonuses. The estimates for the distributive trades have, however, been strengthened by the data about the total wage and salary bill (wages and salaries are not separately distinguished) in the Census of Distribution for 1950⁽³⁾.

Agricultural earnings (including payments in kind) are estimated by the Ministry of Agriculture, Fisheries and Food from a regular sample survey. This inquiry includes the earnings of those temporary seasonal workers in agriculture who may be engaged in other occupations, or not gainfully occupied, during most of the year. The estimate of the wage bill in agricul-

⁽¹⁾ See, for example, *Ministry of Labour Gazette*, September 1955. These inquiries have been carried out at intervals (though with some changes in periodicity) since 1938. Earlier inquiries were carried out in conjunction with the censuses of production.

⁽²⁾ *Time Rates of Wages and Hours of Labour*, 1st April, 1954, H.M.S.O. (1955).

⁽³⁾ *Census of Distribution and other Services 1950*, Volume II. *Retail and Service Trades: General Tables* (1954); and Volume III. *Wholesale Trades* (1955), H.M.S.O.

ture is believed to be reliable; but the seasonal movement of workers into agriculture may lead to errors in estimating the wage bill in the industries to which such workers normally belong if the wage bill estimates for the latter industries are based on earnings data for only certain weeks in the year. These seasonal movements in employment are one factor making it difficult to estimate the wage bill as a whole from an industrial classification of workers based on their principal employment combined with data about earnings relating to particular weeks in the year or to standard rates of pay.

Outside the census of production industries and some forms of public employment, almost no information is at present available about *salary earnings*. The estimates made for individual industries are very insecure but the estimate of *total salaries* is proportionately as reliable as that of *total wages*. The principal methods used are:

a. If an estimate is available of the total wage and salary bill in an industry (or part of an industry), and an estimate has been made, by the method described above, of the total wage bill, then the salary bill is taken as the difference. This can be done for public administration and for the Post Office (for which data about total remuneration are available from central and local government financial statistics), and for insurance, banking and finance, shipping and private educational services (for which the PAYE statistics are used to give total remuneration).

b. Analogy with the average level of salary earnings in those industries for which statistics exist (generally the census of production industries).

Distribution by industry of supplements to wages and salaries

The distribution by industry of *directors' fees* is based on the data from the Census of Population, 1951 used to estimate the total number of directors (page 75). *Income in kind* (page 76) is included only for specific industries. *Expenses of employment* (page 76) are allocated in proportion to the total wage and salary bill. Employers' contributions to *national insurance* (page 77) are for the most part allocated in proportion to numbers employed. Employers' contributions to *pension schemes* (page 77) and *compensation payments* (page 79) are allocated in proportion to the wage and salary bill (except that separate estimates can be made for public services, the nationalised industries and insurance, banking and finance). For employers' contributions analysed by industry, see page 91.

SOURCES USED FOR WAGES AND SALARIES IN INDIVIDUAL INDUSTRIES

This section describes the sources used for estimating the wage and salary bill industry by industry. The Roman numerals refer to the Orders of the *Standard Industrial Classification*. The methods described as used for 1954 are normally the methods used in each Blue Book for the latest year shown, and those described as used for 1948-53 are those used for each year earlier than the latest year.

The methods used to obtain estimates of total numbers employed and the number of wage-earners and salary-earners are first described. Where this is followed by a description of the methods used to estimate the average wage and the average salary, it is to be assumed that the wage bill and the salary bill have been estimated by multiplying numbers employed by

average earnings. Wherever direct methods are used to estimate the wage bill and salary bill they are described after the section on numbers employed. The reliability of the estimates is indicated on page 91.

I. Agriculture, forestry and fishing

Agriculture

Numbers employed: Estimates of the numbers employed are provided by the Agricultural Departments. They are derived from returns made at quarterly intervals by all farmers occupying one acre or more in Great Britain and one quarter of an acre or more in Northern Ireland. The figures refer to all persons, including casual workers, engaged in farming, whether or not they are in receipt of a money wage. Farmers and their wives together with children still at school are excluded. The small number of salary earners include foremen and bailiffs. These numbers are somewhat greater than the numbers employed according to the Ministry of Labour's statistics which relate to insured persons only and which exclude partners of the main occupier from numbers employed (treating them as self-employed).

Average wage and salary: These are estimated by the Ministry of Agriculture, Fisheries and Food. In each year a sample of agricultural holdings is selected and throughout the year these holdings are visited by inspectors who personally collect the required information. In 1951 the sample for England and Wales comprised 5,405 holdings or about 3 per cent. of the total number of holdings employing labour. It is believed that the inquiries yield reliable results.

The estimates of average earnings include the value of all perquisites (amounting to about £7 million in 1951). In the case of unpaid family workers an income is attributed equal to that received by paid workers of corresponding age, sex and occupation⁽¹⁾.

Forestry and fishing

Numbers employed: Ministry of Labour figures for the total. The number of salary earners was taken to be about 4,000 in each year.

Wage and salary bill: For 1948 to 1953 the total was estimated from PAYE statistics, arbitrarily split between wages and salaries in such a way as to produce, in conjunction with the figures of numbers employed, reasonable figures of average earnings. For 1954 estimates are based on (a) changes in numbers employed, (b) changes in wage rates and (c) changes in average salary earnings based on changes in salaries in other industries.

II. Mining and quarrying

Coalmining

Numbers employed: Census of production figures.

Wage bill: 1948 to 1953: the census of production with an addition for the commercial value of coal provided free or at concessionary rates to miners. 1954: wages (including allowances in kind) paid by the National Coal Board, as given in its quarterly statistical statement, with addition for wages paid on capital account and wages paid by collieries not operated by the National Coal Board.

⁽¹⁾ For a detailed account of the inquiries reference should be made to an article by H. Palca and I. G. R. Davies 'Earnings and Conditions of Employment in Agriculture' *Journal of the Royal Statistical Society* Series A Vol. CXIV, Part 1, 1951.

Salary bill : 1948 to 1953: the census of production. 1954: estimate based on the change in the total amount of salaries paid on revenue account by the National Coal Board.

Other mining and quarrying

Numbers employed : Census of production figures.

Wage and salary bill : For 1948 to 1954, the census of production with an addition for small firms and for firms making unsatisfactory returns and, for 1948 only, for Northern Ireland.

III-XVI. *Manufacturing industries*

Numbers employed : Census of production figures. These may be somewhat narrower in scope than the Ministry of Labour figures since they exclude all employees working in canteens and in selling, merchanting or transport organisations for which separate accounts are kept; some of these workers are included in the Ministry of Labour figures for manufacturing.

Wage and salary bill : For 1948 to 1954, the census of production.

An estimate is added, in each year, for the wage and salary bill of (a) small firms, (b) firms making unsatisfactory returns, (c) garages and filling stations, (d) boot and shoe and watch and clock repairers working directly for the general public, (e) wholesale slaughtering contractors, (f) establishments in Northern Ireland (1948 only) and (g) establishments in the "overlap trades" (i.e. overlapping with the census of distribution) not fully covered by the census of production (1950 only).

XVII. *Building and contracting*

Numbers employed : Census of production figures. These figures are somewhat wider in scope than the corresponding Ministry of Labour figures: the census includes all building and maintenance workers directly employed by public authorities and by undertakings in transport and communication, some of whom may be classified to the latter industries in the Ministry of Labour figures.

Wage and salary bill : For 1948 to 1954, the census of production, with an addition for small firms and firms making unsatisfactory returns and, for 1948 only, Northern Ireland. For 1950 the census did not cover this industry. For this year the wage and salary bill was roughly estimated from (a) changes in numbers employed (Ministry of Labour figures), (b) changes in average wage-earnings (earnings inquiries of Ministry of Labour) and (c) changes in average salary-earnings based on the changes in the general level of salaries in other industries.

XVIII. *Gas, electricity and water*

Numbers employed : Census of production figures.

Wage and salary bill : 1948 to 1953: the census of production, with an allowance for small and non-reporting firms and, for 1948 only, Northern Ireland. 1954: the wage and salary bill is estimated from (a) changes in numbers employed (Ministry of Labour figures), (b) changes in average wage-earnings (earnings inquiries) and (c) changes in average salary-earnings based on the change in the general level of salaries in other industries.

XIX. *Transport and Communication**Railways*

Numbers employed: Ministry of Labour figures less numbers directly employed on building and civil engineering work. The number of such employees shown by the censuses of production corresponds closely to the number shown in the statistics published by the British Transport Commission. The employment figures published by the British Transport Commission agree closely with the figures of the Ministry of Labour, if numbers employed in the manufacture and repair of rolling stock are excluded. They also distinguish separately the number of wage-earners and salary-earners employed.

Wage and salary bill: The accounts of the British Transport Commission show the amounts paid to wage-earners and salary-earners for most of the staff. The pay of some of the staff must be estimated from figures of costs which include items other than wages and salaries. Estimates of the wage and salary bill obtained in this way, divided by the corresponding number of wage and salary-earners, give estimates of average earnings that can be reconciled with the figures of average earnings derived from the Railway Staff census of earnings relating to one week in April of each year.

Tram and bus service, road passenger transport and goods transport by road

Numbers employed: Ministry of Labour figures. The proportion of wage and salary-earners is derived from the one per cent. sample of the Census of Population, 1951.

Average wage: Earnings inquiries of the Ministry of Labour.

Average salary: No information. An estimate for 1948 was made by comparison with salary levels in other industries. The movement from year to year was based on the changes in the general level of salaries in other industries.

Shipping

Numbers employed: Ministry of Labour figures for the total. Within this total there are details from the Registrar General of Shipping of the numbers of seamen afloat; officers (salary-earners) are distinguished from ratings (wage-earners). The remainder are seamen temporarily ashore (for example, while their ship is being turned round) and persons employed in shore establishments. For the latter, the proportions of wage and salary-earners are estimated by reference to the one per cent. sample of the Census of Population, 1951.

Average wage and salary: There is little information available except for minimum rates and the average earnings of seamen employed by the British Transport Commission.

Wage and salary bill: 1948 to 1953: total estimated from PAYE statistics, arbitrarily split between wages and salaries in such a way as to produce, in conjunction with the figures of numbers employed, reasonable figures of average earnings. 1954: estimates based on (a) changes in numbers employed, (b) changes in wage rates and (c) changes in average salary earnings based on the changes in the general level of salaries in other industries.

Dock labour

The National Dock Labour Board provides statistics of the numbers and pay of all classes of dock workers, including those working on daily or half-daily engagements. These figures relate to wage-earners only.

Post Office

Numbers employed: The Treasury provides figures of "industrial" and "non-industrial" staff. Numbers employed in the Post Office Savings Bank and in the Factory Departments, as shown in the *Post Office Estimates*, are deducted, since these are not classified under Transport and Communications in the *Standard Industrial Classification*. Industrial staff *plus* messengers and postmen are treated as wage-earners. All other staff are treated as salary-earners, including counterhands and switchboard operators.

Wage bill: This is obtained as a residue by subtracting an estimate of the salary bill (see below) from an estimate of the total of wages and salaries. The total for financial years can be obtained from the *Appropriation Accounts* of the Post Office and, for the latest year, from the *Estimates*. The calendar year figures are obtained by interpolation.

Salary bill: The Treasury, from returns submitted by the Post Office, provide figures of the total remuneration of non-industrial staff. Estimates of the pay of messengers and postmen, who are included among non-industrial staff, are then deducted.

Rest of transport and communication

Numbers employed: Ministry of Labour numbers, *less* the number of dockworkers (already covered above) and *less* an estimate of the number of persons directly employed on building and civil engineering work (already included in XVII above) *plus* an estimate of the number of persons employed in transport organisations classified to manufacturing (III—XVI) in the Ministry of Labour statistics but excluded from the census of production. The proportion of wage and salary-earners is estimated from the one per cent. sample of the Census of Population, 1951.

Average wage: Part of the field is covered by the earnings inquiries of the Ministry of Labour. It is assumed that the average for the whole is the same as that for the part.

Average salary: No information. Estimates are made by comparison with salary levels in other industries. The movement from year to year is based on the change in the general level of salaries in other industries.

XX. Distributive trades

Numbers employed: Ministry of Labour numbers *plus* an allowance for persons employed in distributive and selling organisations and head offices classified to manufacturing in the Ministry of Labour statistics but excluded from the census of production. The proportion of wage and salary-earners is estimated from the one per cent. sample of the Census of Population, 1951. Shop assistants are treated as wage-earners (see page 72).

Average wage and salary: The only information available relates to minimum and recognised wage rates. Year to year movements in earnings are roughly estimated by reference to changes in these rates and to changes in the level of earnings in other industries.

A small addition is made to the wage bill to allow for the earnings of part-time shop assistants, errand boys, etc. not included in the Ministry of Labour numbers of employed.

The combined average pay of wage and salary-earners for 1950 in both retail and wholesale trade is checked by an estimate made from information in the Census of Distribution and Other Services, 1950.

XXI. Insurance, banking and finance

Numbers employed: Ministry of Labour figures. The proportion of wage and salary-earners is estimated from the one per cent. sample of the Census of Population, 1951.

Wage and salary bill: 1948 to 1953: total estimated from PAYE statistics, arbitrarily split between wages and salaries in such a way as to produce, in conjunction with the figures of numbers employed, reasonable figures of average earnings. 1954: estimates based on (a) changes in numbers employed, (b) changes in wage rates and (c) changes in average salary earnings based on the changes in the general level of salaries in other industries.

XXII. Public administration and defence

National government service

Numbers employed: The Treasury provides figures of "industrial" and "non-industrial" staff employed by government departments. Industrial staff *plus* messengers, lift attendants, storemen, etc. are treated as wage-earners. Non-industrial staff *less* messengers, etc. (who are included among non-industrial staff) are treated as salary-earners.

Average wage: Earnings inquiries of the Ministry of Labour.

Salary bill: The Treasury provides figures of the pay of non-industrial civil servants, excluding those employed in the Post Office, the Forestry Commission and the Stationery Office, but not those in the other branches of government excluded from the definition of national government service. Estimates of the pay of these employees must therefore be deducted. A further deduction is made for the pay of messengers, etc. and an addition for salaries paid by the Government of Northern Ireland.

Wage and salary bill: For 1950 to 1954, direct estimates of the total amount paid by the government, in wages, salaries and employers' contributions, to employees in national government service, are derived by detailed examination of the *Appropriation Accounts* (for the latest year, provisional figures of the out-turn of the *Estimates* are used).

Local government service

Numbers employed: Ministry of Labour figures *less* an estimate of those engaged in building and civil engineering work (see XVII). The proportion of wage-earners and salary-earners is estimated from the one per cent. sample of the Census of Population, 1951.

Average wage: Earnings inquiries of the Ministry of Labour.

Average salary: For the years 1949-50 to 1952-53, it is possible to make a direct estimate of the salary bill (see below). This, divided by the number of salary-earners, gives estimates of the average salary for four years. It is assumed that changes before and after these four years are the same as changes in average salary in national government service.

Salary bill: Direct estimates for 1949-50 to 1952-53 are obtained by a method of doubtful reliability. The Ministry of Housing and Local Government obtain from local authorities in England and Wales estimates of the remuneration of staff classified by type of service⁽¹⁾. Amounts paid to staff employed in education, health, transport, building, etc. are deducted to get an estimate of the remuneration of staff in local government service as defined by the *Standard Industrial Classification*. This is then increased to allow for local authorities in Scotland and Northern Ireland. Finally, an estimate of the amount paid in wages (number of wage-earners multiplied by the average wage) is deducted to arrive at an estimate of the salary bill for the four years.

XXIII. Professional services

Public health services

For the National Health Service, the number of wage and salary-earners and the amount of their pay are estimated from information given in the accounts published under the National Health Service Act, supplemented by information from the Ministry of Health and the Department of Health for Scotland.

For the health services of local authorities, estimates for 1949-50 and subsequent years are derived from the information supplied by the Ministry of Housing and Local Government of remuneration of staff employed by local authorities in England and Wales, classified by type of service (see XXII local government service). For the first half of 1948 it was necessary to take into account the remuneration of staff employed in health services transferred from local authorities to the National Health Service in the second half of the year. These services possibly represented about two-thirds of the total National Health Service.

Public educational services

Estimates of the number of teachers employed by local authorities and their salaries are provided by the Ministry of Education and the Scottish Education Department. An addition is made for other salaried employees (clerical staff, etc.) and for Northern Ireland. The number of wage-earners (cleaners, caretakers, gardeners, etc.) is roughly estimated from the number of schools and their average earnings are taken to be somewhat lower than in local government service generally. Estimates of the wage and salary bill obtained in this way are reconciled with independent estimates made from information provided by the Ministry of Housing and Local Government (see XXII local government service).

Private health services

Numbers employed: Ministry of Labour figures for medical and dental services less the estimates of numbers employed in public health services. The proportion of wage-earners to salary-earners is estimated from the one per cent. sample of the Census of Population, 1951.

Average wage and average salary: As for public health services.

⁽¹⁾ The estimates for 1952-53 are shown in *Local Government Financial Statistics, England and Wales, 1952-53*.

Private educational services

Numbers employed: Ministry of Labour figures for education less the estimate of the numbers employed in public educational services. The proportion of wage-earners to salary-earners is estimated from the one per cent. sample of the Census of Population, 1951.

Average wage: As for public educational services.

Wage and salary bill: Obtained as a residue by deducting the estimates for public educational services from a total for all educational services derived from PAYE statistics.

Other professional services

Numbers employed: Ministry of Labour figures. The proportion of wage and salary-earners is estimated from the one per cent. sample of the Census of Population, 1951.

Average wage and salary: Rough estimates are made by comparison with the level in other industries.

XXIV. *Miscellaneous services**Domestic servants*

Numbers employed: For 1951, the numbers are given by the one per cent. sample of the Census of Population, 1951. For 1948 to 1950 and for 1952 to 1954 the numbers are estimated by applying the year to year percentage changes in the Ministry of Labour figures to the Census figures for 1951. This latter figure is nearly one-fifth higher than the corresponding Ministry of Labour figure for 1951. All are taken to be wage-earners. It is assumed that nine-tenths are employed by persons, one-tenth by businesses.

Average wage: Little is known of the average earnings of domestic servants, apart from information obtained from sample enquiries by the Social Survey covering, among other things, personal expenditure on domestic servants. The average earnings in 1948, including board and lodging, were taken to be about £200 per annum.

Other services⁽¹⁾

Numbers employed: Ministry of Labour figures plus an allowance for persons employed in canteens and miscellaneous services industries classified to manufacturing in the Ministry of Labour figures but not in the census of production. The numbers would also include those persons employed by small firms on repair work, etc. who may have been omitted from the census. The proportions of wage-earners and salary-earners are roughly estimated from the one per cent. sample of the Census of Population, 1951.

Wage and salary bill: This is derived as a residue, being the difference between the estimate of the total wage and salary bill, based on Inland Revenue statistics, and the estimated wage and salary bill in all other industries. The estimate is therefore subject to a wide margin of error.

(¹) Entertainments, sport, catering, laundries and dry cleaning, hairdressing, etc. and other services.

Services of private non-profit-making bodies (part of XXIII and XXIV)

A rough estimate of the wages and salaries paid by these bodies is derived from PAYE statistics which are classified not only by the industry but also by type of employer.

Allocation of employers' contributions by industry

The following table shows an analysis by industry of employers' contributions to national insurance, to superannuation schemes and compensation payments, etc. As is explained on page 83, some of these estimates are very rough.

Allocation of employers' contributions by industry, 1954

<i>Industry</i>	<i>£ million</i>
Agriculture, forestry and fishing	10
Mining and quarrying	26
Manufacturing	167
Building and contracting	29
Gas, electricity and water	16
Transport and communication	60
Distributive trades	43
Insurance, banking and finance	58
National government service	70
Local government service	43
Public health and educational services	37
Domestic services to households	5
Other services	36
Total	600

RELIABILITY OF THE ESTIMATES

The estimates of the aggregate wage and salary bill and of the total income from employment are considered to be reliable. The chief source of error in these totals arises from the adjustments which are made to the basic PAYE data (these adjustments are explained on pages 74 to 77). The reliability of each of these adjustments is poor.

In the table on page 92 an attempt is made to classify the estimates of the wage and salary bill in each industry according to their reliability on the lines described on pages 33 to 36.

Two general points should be noted. One element of uncertainty arises from the attempt to separate wages and salaries. For several non-manufacturing industries little is known about the relative proportions of wage-earners and salary-earners; the estimates of the combined wage and salary bill for these industries are more reliable than the separate estimates of the wage and salary bill.

A second general element of uncertainty arises from the marginal adjustments, which are made to the basic data for each industry, to allow for directors' fees, income in kind and expenses of employment. (See pages 75 to 77 and 83.)

Income from employment: reliability grading

Margins of error: A \pm less than 3 per cent.; B \pm 3 to 10 per cent.; C \pm more than 10 per cent.

S.I.C. Order	Industry	Wage bill		Salary bill		Wage and salary bill		Amount paid in 1951 £ million	
		1948-1953		1948-1953		1948-1953		1954	
		1948-1953	1954	1948-1953	1954	1948-1953	1954	Wages	Salaries
I	Agriculture	B	B	C	C	B	B	219	21
II	Forestry and fishing	C	C	A	C	A	A	20	2
	Coal mining	A	A	A	A	A	A	331	19
III-XVI	Other mining and quarrying	A	A	A	B	A	B	24	5
	Manufacturing	A	A	B	B	B	B	2,200	741
XVII	Building and contracting	B	B	B	B	B	B	525	83
XVIII	Gas, electricity and water	A	A	A	B	A	B	99	50
XIX	Railways	B	B	B	B	B	B	125	31
	Trams, buses and road haulage	C	C	C	C	C	C	163	20
XX	Shipping	A	A	A	A	A	A	31	43
	Deck labour	A	A	B	B	B	B	63	58
XXI	Post Office	C	C	C	C	C	C	41	39
	Rest of transport and communication	C	C	C	C	C	C	413	397
XXII	Insurance, banking and finance	C	C	B	B	B	B	19	209
XXIII	National government service	B	B	B	B	B	B	66	193
	Local government services	C	C	A	C	C	C	126	80
XXIV	Public health services	A	A	B	B	A	B	50	124
	Public educational services	C	C	B	B	B	B	25	160
XXIV	Private health and educational services and other professional services	C	C	C	C	C	C	29	147
	Domestic services to households	C	C	C	C	C	C	96	—
	Other services ⁽¹⁾	C	C	C	C	C	C	367	153
	Total wages and salaries	A	A	A	A	A	A	5,080	2,575
	Pay in cash and kind of the Forces								287
	Employers' contributions:								
	National Insurance								205
	Other								274
	Total income from employment								8,421

⁽¹⁾ Including private non-profit-making bodies.

4. STATISTICAL SOURCES: INCOME FROM SELF-EMPLOYMENT

This class of incomes, which incorporates elements of both labour income and profit income, may be described either as income from self-employment to distinguish it from the income of employees, or as income of unincorporated enterprises to distinguish it from the income of companies and public corporations. Its place in the accounts of the personal sector is described on page 59. Income from self-employment is divided into three groups: income of farmers, professional earnings, and income of other sole traders and partnerships. Income from farming is estimated from data collected by the Agricultural Departments and the other two forms of income from Inland Revenue data.

INCOME OF FARMERS

Income of farmers consists of the income from agriculture, horticulture and direct retailing of occupiers of holdings of one acre or more in Great Britain and one quarter of an acre or more in Northern Ireland; nearly all of them are sole traders or partnerships⁽¹⁾. Income earned by farmers with smaller holdings is included under "income of other sole traders and partnerships". These definitions are adopted so as to secure consistency in coverage with the definition used for the data on farm incomes published by the Agricultural Departments.

Income from farming represents the reward of the manual and managerial labour of farmers and their wives and the return on their capital. Income from the ownership of land and buildings, including the income imputed to farmers owning the farms on which they work, is, however, excluded from income from farming and treated as part of rental income (see page 333).

The figures are estimated by the Ministry of Agriculture, Fisheries and Food, the Department of Agriculture for Scotland, and the Ministry of Agriculture for Northern Ireland. The method is first to estimate the value of the gross receipts from agriculture (excluding the value of inter-farm sales), and then to subtract the following items of cost: rent or rental value of land and buildings, labour costs, purchases of goods and services from other industries or from abroad and provision for depreciation of equipment. The original estimates are made for accounting years (ending in May) and are converted for the Blue Book to calendar year figures; for example, the figures for 1948 are equal to 5/12 of the income earned in the crop year 1947-48 plus 7/12 of the income earned in the crop year 1948-49. This conversion may lead to error in estimating the income for a particular calendar year.

Estimates for the last complete crop year, together with forecasts for the current crop year, are published in the white paper⁽²⁾ issued each spring in connection with the determination of farm prices under the Agriculture Act, 1947. The figures of income from farming used in the national income estimates differ from those published by the Agricultural Departments in

⁽¹⁾ Because of the method of estimation, the profits of the few companies engaged in farming are included in income of farmers, and excluded from the profits of companies in the accounts of the company sector.

⁽²⁾ E.g., *Annual Review and Determination of Guarantees, 1955* (Cmd. 9406) issued in March, 1955, gives estimates for 1953-54 and forecasts for 1954-55.

two respects: in the national income estimates, no deduction is made from the incomes of farmers for interest paid on borrowed working capital nor for provision for depreciation (as throughout the national accounts); in the Agricultural Departments' calculation of farm net income, both these items are treated as current expenses.

The estimate of income from farming is built up from very detailed estimates of output and expenditure. The industry is treated as one large national farm: this affects the treatment in the accounts of the numerous transactions occurring between farm and farm (either direct or via merchants and processors). Where home-grown agricultural produce appears on the expenditure side of the account (as do purchases of home-grown feed cereals under "feeding-stuffs") that produce also appears on the revenue side; but where the expenditure side is on a net basis (e.g. by excluding unfinished livestock reared in the United Kingdom) the revenue side excludes them also. Either method will avoid double-counting of profit from the same produce at different stages of growth or marketing.

Calculation of income from farming, 1953-54

£ million

Expenditure		Revenue	
Labour	275	Milk and milk products	340
Feeding-stuffs	270	Fat stock	370½
Fertilizers	65½	Eggs and poultry	150
Rent and interest	73½	Farm crops	241½
Machinery expenses	155½	Horticultural products	116
Other expenses	173	Other sales	33
Total ⁽¹⁾	1,012½	Total sales	1,251
Net income from farming	320½	Production grants, sundry receipts and other credits	57
		Increases in value of farm stocks and work in hand	25
Total	1,333	Total	1,333

Source: Cind. 9406, Appendix II, Table C

(1) Of which £64 million in respect of depreciation.

The agricultural subsidies appear in the table at various points. Those paid as part of the price of end-products appear under commodity receipts: the subsidy on lime is reflected in a smaller entry under "fertilisers" than would otherwise appear; others again (the direct subsidies) come under "production grants". Revenue includes the value (at average realisation prices of produce sold) of produce consumed in the farm household (about £11 million in recent years). The expenditure items are gross in the sense that they include some capital expenditure (e.g. farm labour used in improving the farm), but this capital expenditure is balanced by a contra-item on the revenue side under "other credits". The interest item relates to farmers' borrowing from banks, merchants and other sources in respect of the farm

business. The increase in "value of farm stocks and work in hand" consists of the difference, between the beginning and end of the year, in the book values of livestock and growing crops, together with tillages, harvested crops, feedingstuffs on hand, etc. Changes in the value of manurial residues in the soil, although substantial, are not included.

INCOME OF PROFESSIONS AND OF OTHER SOLE TRADERS AND PARTNERSHIPS

Professional earnings are defined in the same way as in the legislation relating to the excess profits tax. They exclude, that is to say, all the profits of business consisting wholly or mainly in the making of contracts on behalf of others or in the giving of commercial advice relating to contracts. Apart from this exception they include all the earnings of individuals and partnerships assessable to income tax under Schedule D from the carrying on of professions where the profits made depend wholly or mainly on personal qualifications. Thus, this item covers the earnings of doctors, dentists, lawyers, artists, journalists and architects working on their own account, including earnings of doctors and dentists under the National Health Service, but excludes the profits of brokers and estate agents; it also excludes the salaries of members of the professions chargeable to tax under Schedule E and thus excludes all doctors who are whole time hospital employees, nearly all teachers, and all members of the Forces.

Other sole traders and partnerships include all income assessed under Schedule D from unincorporated enterprises except income classified under farming or professional earnings. This group includes agents (e.g. insurance agents) working on commission unless there is a contract of service with a single employer. (Where there is such a contract—for example in the case of most salesmen working on commission—the whole income is normally assessed under Schedule E and treated as income from employment.)

Inland Revenue data

The main source of information for both professional earnings and other sole traders and partnerships is the statistics of assessments to tax collected by the Inland Revenue; these relate to the total amount of profits assessable to income tax under Schedule D (with an addition in 1946 for excess profits tax which is deducted for tax purposes in arriving at the Schedule D profit). The profits are before deduction of depreciation allowances, as elsewhere in the Blue Book. The statistics have much the same general characteristics as those of company profits derived from the same source and described on page 152 et seq., to which reference should be made for a more detailed description of the methods of using these tax assessments.

For the years up to and including the last year but two shown in the Blue Book, the figures are based on the assessments to income tax under Schedule D, Cases I and II, made in the income tax year following the calendar year of profit. There are several reasons why this does not cover the earnings of the calendar year precisely. First, about 8 per cent. of the income tax assessments made in the year relate to earlier years. Secondly, although Schedule D assessments are, broadly speaking, based on the profits of the previous year, this is not always true; for instance, when a business

starts or finishes, some of the assessments are based on the current year's profit. Since delay in securing information often retards such assessments, this error may offset the first. Thirdly, assessments based on the previous year are based on the profits of the accounting period ending at any time in the previous income tax year; in practice, this gives an average-year for profits centred on, and mostly falling within, the calendar year, because (as in the case of companies, see page 153) about three quarters of the accounting years end either in the fourth or first quarter of the calendar year.

For the last two years shown, the Inland Revenue estimates are based on incomplete data. The data comprise three series of reports on cases with profits exceeding £2,000, £5,000 and £10,000 respectively; the third group is the "traders' forecasts" made at the beginning of each calendar year. These reports, and the ways in which they are used, are described in detail in Chapter VI (see page 154). Because of the very large number of cases for which data are not available in advance of actual assessment, the estimates for the last two years are subject to substantial later amendment. For the last year but one the coverage of the data in respect of *professional earnings* is fairly good—about 40 per cent. of total earnings—but for the latest year it is very limited—about 6 per cent.—and the estimate for that year must therefore be regarded as highly provisional. For *other sole traders and partnerships*, the data for the last year but one cover only about 15 per cent. of total profits, and for the latest year only 4 per cent.

Adjustments to Inland Revenue data

Under-assessment of income—That some understatement of income occurs in tax returns is borne out by the figures published by the Inland Revenue of taxes and penalties charged in cases that have come to light. There must obviously be other cases so far undetected and the figures published in the Blue Book include an arbitrary addition on this account.

The "Danckwerts award"—In 1952 an award by Mr. Justice Danckwerts resulted in an addition to the incomes of doctors employed under the National Health Service which must be regarded as retrospective to the beginning of the Health Service. This is allocated to professional earnings over the years from 1948, the allocation being based on the terms of the award.

Small-holders—A separate estimate is made for the incomes of small-holders (i.e. agricultural holdings of less than one acre⁽¹⁾) which are excluded from the agricultural returns on which the estimate of income from farming is based. This amounts to about £50 million a year and is included in the incomes of other sole traders and partnerships.

Reliability

The reliability of the estimate of the general level of incomes in these categories is not high, for the reasons given above. It is thought that the margin of error lies within the range of class B⁽²⁾. The estimates of year to year changes are somewhat more reliable, except for the last two years shown.

⁽¹⁾ Less than one quarter of an acre in Northern Ireland.

⁽²⁾ For the significance of the reliability gradings see page 34.

5. STATISTICAL SOURCES: CONSUMERS' EXPENDITURE

The estimates of consumers' expenditure are built up from a variety of independent sources—a wider variety than is used for any other major category in the national income statistics. Many of the estimates have recently been reviewed and some extensive revisions made in the light of new information from the Census of Distribution and Other Services for 1950 and the Census of Production for 1951 together with preliminary information from the household expenditure inquiry conducted by the Ministry of Labour in 1953-54.

A general description of what is covered by consumers' expenditure is given on page 60. Some further points arise from the classification of consumers' expenditure between items:

a. Expenditure on consumers' goods and services by business enterprises and public authorities is not regarded as final expenditure and should therefore be excluded from the estimates of consumers' expenditure. But when, as often happens, only the *total* home supply of a given commodity is known, the obvious practical difficulty must be faced of making some deduction for the proportion to be attributed to business or public authorities, both of which are large purchasers of certain kinds of consumer goods. The deductions in fact made here are frequently no more than guesses. The most important case of this kind is the proportion of business to personal expenditure in the purchase and running of motor cars.

b. A second problem arises when a composite product or service is purchased by the consumer. The principal case is expenditure on food in restaurants, hotels or canteens, where the consumer is buying not only food but also the services of the staff and the other current costs of maintaining the establishment. Should these current costs be regarded as part of the expenditure on food, being costs incurred in the supply of the food, or should part of the consumers' expenditure in catering establishments be allocated to food, and part to other goods and services? There is much to be said for either method of approach. Largely because it seems undesirable to provide a measure of expenditure on food which might be affected by changes in the proportion of meals eaten outside the home, the second method is adopted in the Blue Book: the value of the food, at the estimated cost to the establishment, is included as expenditure on food; expenditure on alcoholic drink is included under the heading alcoholic drink; an estimate for the remaining expenditure in catering establishments is allocated to "expenditure on hotel and restaurant services, etc." (in the category "Other services")⁽¹⁾. Food purchases in private schools and other institutions is also included under food expenditure but it has not so far been possible to estimate specifically the other components of expenditure in these institutions; such expenditure must be regarded as included in the estimates for the various goods and services concerned. Expenditure on alcoholic drink, in public houses and other catering establishments, also represents the purchase of a "composite

⁽¹⁾ This treatment is recommended by the United Nations (page 27) and O.E.E.C. (page 57), except that these authorities would value the food component at *retail* prices. Until the Blue Book, 1954 a variant of the treatment described above was used: the non-food expenditure was divided between fuel and light, rent, furniture, etc.

product"; but it is impracticable to determine how the expenditure should be divided between the drink itself and the amenities and services provided by the public house.

c. The sources used for estimates of expenditure generally include, without any possibility of separation, purchases in the United Kingdom by foreign visitors. A deduction is made for the total of these purchases so that the total of expenditure relates only to United Kingdom residents. Correspondingly, an estimate is made of personal expenditure in foreign countries by United Kingdom residents and included in total consumers' expenditure. For both of these items, the estimates are those used in balance of payments statistics. Neither item can be allocated between commodities and both are treated as adjustments to the total. Hence exact figures are not available of expenditure by United Kingdom residents on each commodity or service.

SOURCES AND METHODS FOR ESTIMATING CONSUMERS' EXPENDITURE—GENERAL

The sources of information fall into the following broad groups, which are discussed in general terms below.

- (i) Statistics of production, imports and exports
- (ii) Statistics of wholesale and retail sales
- (iii) Receipts of Customs and Excise duties
- (iv) Rationing statistics
- (v) Sample surveys of consumers' expenditure
- (vi) Miscellaneous sources.

The usefulness of these sources varies not only with the item on which expenditure is being measured but also with the period for which the estimate is required. Source (iii), for example, provides material regularly for all the years for which estimates of expenditure have been compiled while source (iv) reached its peak of usefulness during the war years. Sometimes more than one source can be drawn upon.

(i) *Statistics of production, imports and exports*

The main source of information under this heading for *non-food* goods is the census of production. (See Appendix II.) Full censuses were taken in 1948, 1951 and 1954 with detailed data (in quantity and value) of goods produced. Less detailed information for other years can be obtained from the summary censuses showing the total value of output by trades, and from the various returns of current production made by manufacturers in many industries. The use of the census is, however, confined to the estimates for "benchmark" or base years and other data are used for year to year changes.

To arrive at a figure for consumers' expenditure, the figures of value of output, from the census of production or other sources, are adjusted as follows:

- a. Imports are added and exports deducted. This yields an estimate of the goods available for domestic consumption or for adding to stock, valued at the factory selling price in the case of home-produced goods and at import value in the case of goods from abroad.

b. Allowances should be made for changes in stocks at all stages of distribution. The Census of Distribution and Other Services for 1950 provided some information on the flow of goods through the various channels of distribution and the stocks held at each stage. For other years no comprehensive information is available.

c. Allowances are made for the appropriate mark-up necessary to convert factory value or import and export values to the retail value. The main source of information is the Census of Distribution, 1950, which provided material for estimating the mark-up on the proportion of trade passing through wholesalers as well as information on retail margins. Other information on mark-ups varies considerably in quality. Some is derived from information obtained during the operation of price control (e.g. for clothing and furniture).

d. An addition is made for taxes on expenditure.

e. Purchases by business and public authorities, if any, are deducted. The value of these purchases is seldom known accurately.

f. Allowances are made for the production of small firms not covered by the census and for the production of firms in Northern Ireland. (The addition for Northern Ireland is generally $2\frac{1}{2}$ per cent.)

For expenditure on *food*, the main source of this kind is the detailed information relating to supplies of many foodstuffs collected by the Ministry of Agriculture, Fisheries and Food and depending in part on import and export statistics and on the statistics of agricultural output collected by the Agricultural Departments. The statistics may relate either to total output *plus* imports *less* exports, or to deliveries from one stage of production or distribution to the next (e.g. deliveries to wholesalers). These statistics are mostly expressed in quantities and, like the census of production data, do not relate to retail sales to the public.

Estimates must, therefore, be made of the average retail prices. Even when prices are controlled, this presents substantial difficulty; estimates must be made, often on uncertain evidence, about the proportion of the basic commodity sold in various grades and about the proportion processed in various ways. For example, there are reliable data about the total supply, in tons, of sugar and about the average retail price of sugar sold as such. But the proportions used in the manufacture of jam, confectionery, etc. rest on much less certain evidence.

(ii) *Statistics of retail and wholesale trade*

The main sources under this heading are the Census of Distribution and Other Services for 1950⁽¹⁾ and the monthly statistics of retail trade based on sales reported by a sample of retailers. The census provides comprehensive information about retail and wholesale trade for the year 1950, showing total sales, purchases and stocks. The census does not always provide direct figures of consumers' expenditure. Allowance must be made for purchases by business and public authorities, and the commodity analysis available from the census is not in all cases in sufficient detail. The estimates made

⁽¹⁾ *Census of Distribution and Other Services, 1950. Vol. II. Retail and Service Trades General Tables (1954); Vol. III. Wholesale Trades (1955).*

from the census, adjusted for these factors and reconciled with the estimates based on production data described above, form the basic or "benchmark" figures for 1950 for a wide range of non-food goods.

From these basic estimates for 1950, estimates for other periods are made by the use of appropriate indicators obtained from monthly statistics of retail trade⁽¹⁾. These statistics are supplied by panels covering four groups of retailers, namely department stores, multiple shops, co-operative societies and independent retailers. The first three groups provide sales classified by departments; in the case of the independent retailers, only "specialist" shops are included in the sample and these report their total sales. To a large extent therefore the material available provides indicators of the trend in sales, by commodity groups, for each of the four sectors of retail trade represented. By using appropriate weights derived from the census of distribution the figures for the four sectors are combined to produce one index number of the value of sales for each commodity group. The value of sales in any period can then be estimated by linking movements of this index number with the value of total sales in the base year. In both the census and the monthly statistics of retail sales, goods supplied on credit are recorded when delivery is taken and at the full price received by the retailer including the credit charge.

The main difficulty in using these index numbers is that they relate to sales by certain types of shop—or by departments of a large shop—rather than to sales by categories of goods; they do not therefore take proper account of changes in the character of the retail trade since the base year. For example, over a period, retailers of women's and children's wear may increase their sales of goods outside this category, such as furnishing fabrics, nursery furnishing and fancy goods more than their sales of women's and children's wear; this may give rise to an error in the estimates of expenditure on clothing. This defect applies with special force to the statistics of independent retailers. It is important, therefore, from time to time, to make direct estimates of expenditure as a safeguard against the cumulative effect of errors of this kind.

The retail sales statistics, in conjunction with those referred to under the heading "Statistics of production, imports and exports", are used to estimate current expenditure on durable household goods, clothing, most recreational goods other than reading matter, chemists' goods and the category "other goods"⁽²⁾: they thus cover about a fifth of total consumers' expenditure.

(iii) Receipts of Customs and Excise duties

The liability of certain goods and services to Customs and Excise duties, including purchase tax, can be used to estimate consumers' expenditure or

⁽¹⁾ The statistics are published monthly in the *Board of Trade Journal*. They are in course of revision and references to them in the text will not necessarily apply when the revision has been completed. This revision, which is being made in 1955 and 1956, includes substantial changes in the basis of the statistics and a large increase in the representation of retailers in the sample: the proposals for the revised statistics are described in 'Retail Trade Statistics,' a paper read by W. Rudoe to the Manchester Statistical Society on 12th January, 1955. The first instalment of the new statistics, relating to sales by independent retailers, was introduced in an article in the *Board of Trade Journal* of 1st October, 1955. Some of the present estimates of consumers' expenditure may have to be revised when the improved statistics of retail sales become available.

⁽²⁾ The categories are those specified in Blue Book, 1955, Table 21.

to confirm estimates made from other sources. Such figures are not ideal since they measure the flow at the point of time at which tax is charged, rather than when the consumer makes his purchase. Purchase tax, for example, is normally charged at the wholesale stage and is payable quarterly in arrears; on average, therefore, receipts of tax during a quarter correspond roughly to retail sales during the same quarter. In normal times, and where only annual estimates are required, the use of these statistics is unlikely to lead to great inaccuracy but at times of rapid changes, a cumulative change in retailers' stocks may result in a systematic error in the estimates. No allowance, however, can be made for seasonal changes in distributors' stocks. There is also the possibility of error in the estimates for periods immediately preceding and following the Budget, for expectation of changes in duty may cause sales to be abnormal for a time. Since the Budget is normally introduced early in the second quarter of the year it is probable that any consequent error in the estimate of expenditure in the first quarter will be corrected in the second quarter.

(iv) *Rationing statistics*

The operation of consumer rationing and similar forms of control over production and distribution provided a wealth of data related very closely to consumers' expenditure. For instance, records of clothing coupons surrendered were a major source of information for estimating expenditure on clothing until 1949 and the statistics for expenditure on many kinds of food, and on coal and petrol, for the war and early post-war years, have been built up largely from rationing statistics. Statistics obtained through controls at various stages of distribution have also been useful in estimating the proportion of certain goods (e.g. some basic foodstuffs) reaching the consumer in various forms.

Although most series derived specifically from these administrative requirements have now disappeared (although some have been incorporated in the body of normal statistics), the estimates based on them are still used to provide base-year figures and in a few cases—for example, personal expenditure on petrol—still represent the most recent direct evidence available.

(v) *Sample surveys of consumers' expenditure*

An alternative method of approach to the whole problem of estimating consumers' expenditure is that of direct inquiry among a sample of consumers. This method has three distinct advantages over many of the general statistics so far described: first, the inquiries can be confined to persons, or households, so that all purchases by businesses are ignored; secondly, the sample surveys measure the flow of consumers' goods at the right point of time (being preferable in this respect to estimates derived from production or import data, although not superior to retail sales statistics); thirdly, sample surveys permit a breakdown between different categories of consumers (e.g. income groups) which is of the greatest importance for all forms of demand analysis. There is, however, one drawback to the survey approach as it has so far been applied; the surveys have not covered residents in hotels and other institutions.

The use of sample surveys of households has grown considerably in importance over the last few years. The National Food Survey⁽¹⁾ was started in 1940 to provide an independent check on food consumption and expenditure during the war and was used principally to obtain information about standards of nutrition in the lower income groups. Urban working-class households were the main groups studied until 1951, when the Survey was extended to cover the whole population and analyses by social classes and by family composition were added. The survey, which is taken continuously throughout the year, covers household expenditure and does not include meals and snacks purchased away from home, purchases of sweets and chocolates, ice cream or most soft drinks. This survey is used extensively, in addition to statistics of supplies, in estimating expenditure on food. A major use is to obtain data on average retail prices.

Sample surveys of consumers' expenditure are undertaken periodically by the Government Social Survey partly to throw light on some of the more difficult items (both goods and services) about which little or nothing is known from other sources, and to obtain more information about expenditure by particular groups of households. Some have covered specific groups of goods and services, such as clothing and durable goods⁽²⁾, others the whole of consumers' expenditure. The latter, although on a small scale and designed primarily as experiments in sampling methods, have in fact yielded most useful material for estimating certain items of consumers' expenditure. The reliability of the results, however, is variable, depending in part of the frequency and amount of the expenditure involved.

It is hoped that a great deal of valuable information will ultimately be obtained from the household expenditure inquiry undertaken during the twelve months ending February 1954, by the Ministry of Labour and some of the preliminary results have already been used. This is the largest and most complete sample household survey⁽³⁾ undertaken in this country; like the inquiries mentioned above, however, it does not cover the expenditure of residents in institutions.

The use of sample surveys presents problems which have not yet been completely resolved. In certain, but by no means all cases, discrepancies appear between the results shown by these surveys and data available from general statistics which suggest that incomplete response, or the bias of respondents, can lead to significant error. Much work is being done on the analysis of these problems and there is every hope that the development of

(1) *The Urban Working Class Household Diet 1940 to 1949*—First Report of the National Food Survey Committee. *Domestic Food Consumption and Expenditure 1950* (published 1952), 1951 (published 1953), 1952 (published 1954), and 1953 (published 1955); Annual Reports of the National Food Survey Committee (all from H.M.S.O.).

(2) Published Social Survey reports (available from Central Office of Information) include: 703/2 Expenditure on Laundry, Dyeing and Cleaning, Mending and alterations and Shoe Repairing Services. *Field work 1948 and August, 1949.*

704/3 Expenditure on Repairs and Alterations to Domestic Property, on Gardens, removals and Domestic Service. *Field work 1948 and 1949.*

708/2 Expenditure on Hairdressing, Cosmetics and Toilet Necessities. *Field work November, 1949.*

709/2 Holidays and Holiday Expenditure. *Field work October, 1949.*

710/4 Betting in Britain. *Field work March and April, 1950.*

(3) About 13,000 completed household budgets, each covering a period of three weeks, were obtained.

the techniques of inquiry will make possible confident use of this comparatively economical method of obtaining necessary information.

At present, the results of various sample consumer surveys are used directly and more or less exclusively for estimating expenditure on several items of food, some household goods, rent and house maintenance, repairs to clothing, etc., hairdressing and laundry, dyeing and cleaning services. Data from surveys are also used in part, or as checks, in the miscellaneous categories of expenditure.

(vi) *Miscellaneous sources*

Items of expenditure not covered by the general sources described above are dealt with in various ways. For some goods and services, trade sources and private research organisations have provided estimates. Particular mention should be made of the National Institute of Economic and Social Research which has made available the sources and methods used in its estimates of consumers' expenditure for the pre-war period⁽¹⁾. Estimates of expenditure on gas and electricity depend in the first instance on estimates made by the gas and electricity boards of the allocation of the fuel to different types of consumer. For expenditure on the various forms of public transport, records of passenger receipts are available in most cases. But for several items, expenditure has to be estimated by improvised methods making use of any statistical series bearing on the subject.

ALTERNATIVE VALUATIONS OF CONSUMERS' EXPENDITURE

Four sets of estimates of consumers' expenditure are prepared:

- Value at current market prices
- Volume at constant market prices
- Value at current factor cost
- Volume at constant factor cost

Volume and price series (market prices)

Nearly half of the current value of total consumers' expenditure is estimated from basic data relating to *quantities*; the rest is based on data relating to *values* (mainly retail sales statistics). In the former case, the indicators relating to volume of consumption at constant (1948) prices⁽²⁾ are obtained directly from the basic data of quantities, the items being weighted by estimated prices in the base year with as great a breakdown by categories as possible so as to allow for significant quality changes. Where the basic data relate to values, the indicators of volume are obtained by applying price indices (or data relating to average unit values). For most items, one of the components of the Interim Index of Retail Prices can be used directly. Sometimes, however, this index, which relates essentially to items of working-class expenditure, has to be adjusted to cover the whole range of consumers. The Board of Trade wholesale prices index provides a basis for estimating changes in the retail prices of some items, and in other cases special price indices

⁽¹⁾ See R. Stone, *The Measurement of Consumers' Expenditure and Behaviour in the U.K. 1920-1938*, Volume I, (1954).

⁽²⁾ Until 1948, the estimates of volume were made in terms of 1938 prices.

have been used. The resulting estimates show consumers' expenditure, in total and in detail, at base year prices.

A series of market price indices is derived for each group (shown in Table 23 of the Blue Book, 1955) by dividing total expenditure on all items of the group at current prices by the corresponding total at 1948 prices. The resulting price indices are, formally, current weighted arithmetic averages; the index for each group may therefore be influenced by changes in the pattern of expenditure within the group, and the total index by changes in the relative importance of different groups. For this reason, and, even more, because the pattern of total consumers' expenditure differs from that of working-class expenditure, the consumer price index shown in the Blue Book differs significantly in its year to year movements from the Interim Index of Retail Prices.

Estimates at factor cost

To obtain estimates of expenditure at *current factor cost* (Blue Book, 1955, Table 24), it is necessary to adjust expenditure at current market prices by deducting the indirect taxes paid to public authorities and adding the subsidies paid by public authorities.

The four main categories of expenditure—consumers' expenditure, public authorities' current expenditure, exports and gross capital formation—are first adjusted for the taxes and subsidies known to be specific to them. The allocation of the remaining indirect taxes and subsidies (of which over 80 per cent. consist of taxes on petrol used by businesses, licence duties on commercial motor vehicles and rates on business property) is inevitably arbitrary. Components of expenditure which contain no indirect taxes (for example, expenditure on domestic service, personal and government expenditure abroad, public authorities' expenditure on wages and salaries and on the pay of the Forces) are deducted from the adjusted expenditure totals and the non-specific taxes and subsidies are then allocated *pro rata* over the remaining parts of gross national expenditure. The elements of arbitrary allocation are so great that calculations of the factor cost of individual items would not be justifiable. Thus the results are shown only for broad groups of expenditure.

Consumers' expenditure at *constant factor cost* (Blue Book, 1955, Table 25) is estimated by first adjusting the separate categories of expenditure for the specific taxes and subsidies at the rates applicable to the base year. Sometimes this can be done directly by applying the factor cost price in the base year to the quantity of goods or services bought in other years. In other cases this detailed information on prices and quantities is not available and it then becomes necessary to assume that the volume of consumers' expenditure at constant factor cost moves in the same way as the corresponding series at constant market prices—an assumption which may not always be justified. A further broad assumption is made about the non-specific indirect taxes and subsidies attributable to consumers' expenditure but not allocated over the various categories. The net yield from these taxes, revalued at base year rates, is allocated between the components of gross national expenditure in the same proportions as are used for the estimates at current factor cost.

THE CLASSIFICATION OF CONSUMERS' EXPENDITURE

There are several ways of classifying the items of consumers' expenditure by groups and it is clear that there is no one classification which would meet the needs of all users of these figures. The first main division adopted is between goods and services. For goods, a division by industries, as defined in the *Standard Industrial Classification*, would be useful for any economic analysis linking trends of final expenditure with trends of output. The nature of the basic data, however, combined with the difficulties of splitting a variety of composite products, has imposed a "product" classification in some groups (e.g. food) and in others a grouping influenced by the categories of goods sold in particular types of shop. It is recognised that this classification is not ideal for demand analysis⁽¹⁾.

The classification now used, together with notes on methods of estimating each item, is given in the following paragraphs. In several cases, the sources of information have changed in recent years and some account is given of the older methods, on which the figures for earlier years depend, as well as of the methods now used. Under each item, some description is given of the methods used for estimating expenditure at constant prices.

Provisional and summary estimates of consumers' expenditure in each quarter, at current and constant prices, are published in the *Monthly Digest of Statistics*. Reference is made to the methods of compiling these quarterly estimates when any special point of treatment arises.

SOURCES AND METHODS FOR ESTIMATING CONSUMERS' EXPENDITURE ON SPECIFIC ITEMS

1. Food

This group includes all food and non-alcoholic beverages bought by persons. The greater part is "household expenditure" on food purchased at retail for consumption in the household or elsewhere. Food withdrawn by farmers and other commercial food producers for their own consumption is treated as household purchases. On the other hand, pig clubs, domestic poultry keeping and food cultivation in gardens and allotments are not regarded as commercial enterprises and nothing is included on account of the food produced.

Rather more than one-tenth is described as "other personal expenditure", consisting of purchases of food by catering establishments for consumption by customers on the premises. Catering establishments include both commercial and non-commercial establishments, for example cafes, restaurants, hotels, fish fryers, canteens, office dining-rooms, schools (school meals and school milk) and institutions (hospitals, orphanages, prisons, etc.). Adjustments must be made to exclude expenditure met out of public funds, that is, the payment by public authorities for food consumed in certain institutions such as hospitals and prisons. The value of this food was roughly estimated at £20 million in 1938 and the proportion of expenditure implied has been maintained for all years. Until part payments by consumers of food in

⁽¹⁾ The classification used in the Blue Book varies somewhat in detail from that recommended in the U.N. *System of National Accounts* and the O.E.E.C. *Standardised System*, which is based largely on a functional grouping and is not designed to separate goods from services (e.g., purchases of medicine are grouped with payments to doctors in the U.N. system).

hospitals ceased on the introduction of the National Health Service in 1948, half of this amount was added back to "other personal expenditure". A further adjustment is made to exclude from "other personal expenditure" amounts charged to business accounts. This is now assumed to be 5 per cent. of the annual expenditure by commercial catering establishments. It is assumed that all expenditure on meals in canteens and office dining rooms is paid for out of personal income and that such payments cover at least the cost of the food.

In most cases supplies of each food (excluding those going for export and to the Forces) are measured by quantity and allocated between household expenditure and other personal expenditure in the way described below (page 110). The value is obtained by applying appropriate prices to the quantities allocated. In estimating household expenditure, commercial purchases are valued at the full retail prices. Milk under the National Milk Scheme and other welfare foods are valued at the cost, if any, to the consumer, *plus* the additional cost met by the government. Quantities consumed on farms, etc., are valued at the prices which would be received by the farmer if the goods were sold. An equal amount is included for this item on the income side of the accounts.

Food purchased for consumption in catering establishments is valued at the estimated prices paid by the caterer. The value of school milk and any welfare foods consumed in institutions includes the additional cost met by the government. It is assumed that large caterers buy at wholesale and that small caterers, whose trade forms a considerable proportion of the total, buy at retail with or without some discount.

The following paragraphs describe the sources of the material used to estimate expenditure on the food groups as shown in the Blue Book. With the gradual disappearance of rationing the method of estimating expenditure has in a number of cases changed considerably in recent years.

Bread and cereals: bread, flour, cakes, biscuits, cereal breakfast foods, oatmeal, rice, barley products, semolina, macaroni, sago, tapioca, arrowroot, cornflour, custard and blancmange powders.

Estimates of expenditure on this group depend in the first instance on information received about the deliveries of flour from the mills and the use of imported flour. The amount of this flour used for making subsidised bread is known through the subsidy bill for national bread. Bakers claiming the bread subsidy are also required to state the amount of flour used in making unsubsidised bread. Returns are received at intervals from a sample of bakers giving particulars of their use of flour for cake-making. This sample includes large bakers associated with chains of catering establishments and the returns include some flour used for cake sold in catering establishments. The quantity of flour used by small caterers preparing their own cakes is estimated. Returns stating the quantity of flour used by biscuit manufacturers and the semolina production by millers are available. An annual figure of the production of macaroni is also available. The information mentioned above is in quantitative terms. Price data are obtained from trade price lists for standard articles, such as oatmeal and cereal breakfast foods, and from the National Food Survey for items such as bread, cakes and biscuits. Household purchases of flour both by quantity and value are based on material obtained from the National Food Survey.

Meat and bacon: meat, offal, bacon and ham, canned meat, sausages and other meat products, rabbits, game and poultry.

Until the end of rationing, issues of rationed meat and offal were known because the Ministry of Food was the sole purchaser of imported and home produced meat and controlled distribution through the wholesale stage. It was possible by virtue of this control to arrive at a fairly accurate estimate of the distribution of the meat by end-uses: meat for retail sale, prepared meat sold by caterers and meat products. Since decontrol, information has been less complete and expenditure is based on estimates derived from slaughtering statistics for home production and on the *Trade and Navigation Accounts* for imports, with adjustments for stock changes where information is available. The results of the National Food Survey are used as a guide in estimating the proportions going to the various end-uses. The quantities have been valued throughout at prices revealed by the Food Survey, due allowance being made for the difference between carcase weight and the weight as purchased by the consumer.

Much the same procedure is applied to bacon, but information relating to supplies coming forward is still fairly complete except for the analysis by end-uses. Values were estimated before decontrol by applying the controlled prices, and later from the prices revealed by the National Food Survey.

Both imports and the total home production of canned meat are known. The quantity available is analysed into the main varieties and valued by applying estimated average prices.

The estimate of expenditure on rabbits, game and poultry is based on import statistics from the *Trade and Navigation Accounts* and on production estimates. The figure of expenditure is not very reliable, however, partly because of the lack of firm figures of home production and partly because of the difficulty in estimating average prices for goods subject to big seasonal changes.

Fish (including shell fish): fresh, frozen, cured and canned fish.

The basic information about fresh and frozen fish consists of figures of British landings, supplemented by particulars about fish not of British taking from the *Trade and Navigation Accounts*. Information about the production of kippers, etc., is available. Price data for different varieties of fish are collected by the Ministry of Labour. In estimating consumers' expenditure allowance is made for fish going to fish fryers (treated as caterers) which is valued separately. Particulars of canned fish are available from import statistics and from manufacturers' returns of home production.

Oils and fats: butter, margarine, lard and other edible fats.

Until the end of 1953 the imports, production and distribution of all these items were controlled by the Ministry of Food. Prices of the various products were known so that it was possible to estimate consumers' expenditure with considerable accuracy. Since decontrol, figures for production of butter (derived from milk used), margarine, and cooking fats have continued to be available and imports are derived from the *Trade and Navigation Accounts*. Estimates of consumers' expenditure are now made from these figures and from the results of the National Food Survey.

Sugar, preserves and confectionery: sugar, syrup and treacle, jam, marmalade, fruit curd, honey, mincemeat, chocolate, and sugar confectionery and table jellies.

Until September 1953, the Ministry of Food had detailed statistics of the supplies and allocation of sugar, the basic commodity of the group, for rationed distribution and for various manufactured products; since the price of sugar was controlled, accurate estimates of expenditure were not difficult to make. Since decontrol, although the total consumption of sugar is still known, information on the use of sugar for manufacture has been almost entirely lost and the National Food Survey is used for estimates of household consumption. Consumption of syrup and treacle is now estimated in the same way.

Estimates of expenditure on jam and marmalade are based on production figures and prices taken from trade price lists. An analysis of production by types of jam is available from a panel of manufacturers and this is used in arriving at a weighted average price.

For confectionery, a trade association supplies figures of despatches by manufacturers together with estimates of the retail value of the products.

Dairy products: liquid, condensed and dried milk, cream, cheese, eggs in shell and processed egg.

The sales of full-priced liquid milk are based on information supplied by the Milk Marketing Boards. The quantities of milk provided under the Milk-in-schools and National Milk Schemes are known. Milk-in-schools is valued at its cost to the government, which is the retail cost *plus* the cost of administering the scheme. Milk supplied under National Milk Schemes is valued at the cost to the government *plus* the cost to the consumer, which again is the retail cost *plus* the cost of administration. The net cost to public authorities of Milk-in-schools is treated as a grant to persons so that the item appears on both sides of the personal income and expenditure table.

Full-cream dried milk is not sold by retail except in the form of proprietary baby foods which are included, together with welfare dried milk and milk-based infant foods, under the section "other manufactured food".

The quantities and price, and therefore the value, of rationed cheese were available up to the time of decontrol. The quantity of unrationed cheese imported was known and an average price estimated for the more important varieties. Since decontrol, the sources used are estimates of home production of cheese based on milk used, import statistics from the *Trade and Navigation Accounts* and information from the National Food Survey.

The total home production of eggs is estimated by the Ministry of Agriculture, Fisheries and Food by multiplying the estimated number of birds by an assumed average yield per bird. The number of birds on holdings of more than one acre is known from the agricultural census and the number on smaller holdings was known fairly accurately while feeding-stuffs were rationed. From the total supply of eggs, the quantity retained by farmers, smallholders and domestic poultry keepers for their own consumption is estimated and deducted to give the number available for the ordinary consumer. Retail prices are quoted by the National Egg Marketing Organisation, consumption on farms being valued at the price which would have been

received by the farmer. The purchase of imported eggs, which was the responsibility of the Ministry of Food, is now in private hands and the estimates are derived from the *Trade and Navigation Accounts*. Dried egg, an important item during the war, is no longer used in households. Varieties of processed egg are used by caterers and manufacturers.

Fruit: fresh, canned and frozen fruit, crystallised fruit and nuts.

Potatoes and vegetables: potatoes and potato products, fresh, canned and frozen vegetables, pulses, pickles and sauces.

The methods used for estimating expenditure on these two groups can conveniently be considered together.

Estimates of consumption are derived from the Agricultural Departments' estimates of crops harvested and from particulars of imports, deducting allowances for waste and for use by manufacturers. There is little reliable information about waste but it varies according to the abundance of the crop and the perishable nature of the particular commodity.

Particulars of the production of canned and frozen fruit and vegetables are available from the trade, and imports can be obtained from the *Trade and Navigation Accounts*. With highly seasonal production, such as the canning of home-grown fruit, estimates are made to spread the distribution of consumers' expenditure more evenly over the year.

Dried fruit is wholly imported but it is impossible to assess from import data the amounts used by manufacturers. Here, again, the results of the National Food Survey are used.

All pulses other than dried peas are imported and particulars are given in the *Trade and Navigation Accounts*. From the returns made of the home production of pulses (i.e. dried peas) a deduction is made for the quantities going to manufacturers for canning. Details of production of pickles and sauces analysed by type are available and retail prices are known for most of the important brands.

Beverages: tea, cocoa, coffee, coffee essence and soft drinks.

While distribution was controlled, statistics of the quantity and value of tea were readily available. Since controls were lifted estimates of the quantities going into consumption have been obtained from imports, adjusted by changes in stocks held in warehouses and by packers and blenders. Reasonably accurate estimates of the value of tea going into consumption can be made from information about the weights and prices of different blends reported by packers controlling more than 80 per cent. of the trade. The quantity of cocoa beverage produced is known as it forms part of the return made by manufacturers of chocolate confectionery. The average price is estimated from the prices of standard brands. While the Ministry of Food was the sole importer of coffee beans, and prices were controlled, reasonably good statistics of the quantity and value of coffee sold were available. Estimates are now based on import statistics. There is reliable information about the quantity of coffee used in essences and extracts and the distribution of these products.

Manufacturers of soft drinks provide figures of the quantities produced and these are valued at prices obtained from trade price lists.

Other manufactured food: infants' and invalids' foods, welfare food, e.g. cod liver oil, orange juice) and miscellaneous manufactured foods of which the most important are condiments, canned soups and ice cream.

Production statistics have been available for all the more important types of infant and invalid foods. These were divided into their main groups, i.e. milk-based, malt-based, cereal-based, and valued according to the prices of the most important brands. Recently, less complete information is available, and the figures are partly estimated. Expenditure on welfare foods is valued at the cost to the government *plus* the cost to the consumer (as for National Milk Schemes), the net cost to the government being treated as a grant to persons.

Reasonably good figures are available for canned soups and for salt but for the remaining items in this group the information is sketchy, depending largely on material collected during the war and early post-war years. Consumption of these commodities does not, however, vary very much and price information is readily available from trade price lists.

Estimates of consumers' expenditure on ice cream are arrived at in consultation with the trade.

Allocation between household and other expenditure on food

Allowances of rationed foods to caterers depended during the war and for some time after on the returns which they made to the Ministry of Food stating the number of main and subsidiary meals served over a certain period. These returns provided some information on the actual quantities taken up by caterers. Some years ago the number of meals served by caterers was related to an estimate of the total number of meals consumed by the whole population in order to give a rough idea of the allocation by quantity of total rationed and unrationed supplies between households and caterers. Since that time it has been assumed that, in general, the caterers' share of supplies has not varied very much from the percentage thus estimated. Adjustments are, however, made for items requiring special treatment, for example ice cream, for which a much higher proportion of the total supply is taken to be consumed in catering establishments. The difference between retail prices and the estimated prices paid by caterers is not large, so that errors in the allocation of supplies between the two classes do not seriously affect the estimate of total expenditure on food.

Expenditure on food at factor cost

Total expenditure on food at factor cost is calculated by adding subsidies and deducting taxes; the calculation cannot be made for each of the separate food groups. The main difficulty is to know the relationship in time between the receipt of taxes and payment of subsidies (including deficiency payments) and the expenditure with which they are associated. This relationship is particularly doubtful in the case of the indirect and "delayed action" subsidies such as those paid for fertilizers or the rearing of calves. Taxes on food are relatively small and do not normally vary very much but subsidies may be substantially changed over short periods and it is impossible to ensure that the adjusted estimates accurately record expenditure at factor cost during the appropriate period.

2. Alcoholic drink

Beer (including ale, stout and porter)

The consumption of beer is measured by the net quantity of home-produced beer charged with duty *plus* imports on which duty is paid, as published in the *Trade and Navigation Accounts*. The delay between the date of charge and that of consumption is ignored.

The price of beer varies between districts, between different bars in the same public house, between types of beer and according to whether it is sold on draught or in bottle. Over the past few years there has been a gradual increase in the percentage of bottled beer, which is now estimated to be over 40 per cent. of total consumption. Particulars of quantities sold, and of average prices, for each category of beer are obtained from trade sources and are used to estimate the value of total expenditure. Of the total, 2 per cent. is deducted to allow for expenditure charged to business accounts.

There are several ways in which expenditure on beer might be revalued at constant prices. The simplest method is to multiply the number of bulk barrels consumed in any year by the average price per bulk barrel in the base year. This method makes no allowance for changes in quality as measured by the strength or average gravity of the beer. Another possibility is to use the standard barrel as the unit of consumption and revalue by using the average price of a standard barrel in the base year. This method takes full account of changes in quality but tends to give an unreliable measure of the change in real expenditure because it presupposes that alcoholic content is the sole criterion by which consumers' satisfaction is measured. The method of revaluation which has been adopted is a compromise between the two described above. The price index used is based on the arithmetic mean of the indices of prices of a bulk barrel and a standard barrel calculated separately for each category. The same general principle is used by the Ministry of Labour in compiling the Interim Index of Retail Prices⁽¹⁾.

Spirits

The consumption of spirits as a whole is obtained by adding retained imports on which duty is paid to the net quantity of home-produced spirits charged with duty *less* the amount used for medical or scientific purposes. There is no evidence about the interval between payment of duty and purchase by the ultimate consumer and it has been assumed that there is no time-lag. Except in the case referred to below (page 112), changes in retailers' stocks are also ignored because of the lack of information. This is unlikely to lead to serious error as most stocks are kept in bonded warehouses. Statistics of the net quantities charged with duty are published in the *Trade and Navigation Accounts*.

The estimates of expenditure on each of six types of spirits—Scotch whisky, gin, rum, brandy, Irish whiskey and other spirits—are derived from (a) the proportions of spirits sold in each size of bottle and by the glass; (b) the average price per proof gallon of sales in bottle; and (c) the average price per proof gallon of sales by the glass, and take into account year to year changes in these factors. Where necessary, the figures for financial years have been converted to calendar year estimates by a simple interpolation.

⁽¹⁾ See *Interim Index of Retail Prices: Method of Construction and Calculation* (Revised edition) Ministry of Labour and National Service (H.M.S.O. 1952).

For the years 1950-51 and 1951-52, however, the figures were first combined because of the stocking-up which was known to have taken place in 1950-51. On a number of these points, a considerable amount of information—or guidance where there is no precise information—has been obtained from trade sources.

Of total expenditure on spirits, 5 per cent. is now deducted for purchases charged to business accounts, but this allowance is probably too small.

Expenditure at constant prices is obtained for each of the six groups of spirits by revaluing the quantities sold by the bottle and by the glass at their respective average base year prices.

Imported wines

Statistics of quantities on which duty is paid are provided by H.M. Customs and Excise for the following categories: port, sherry, other foreign heavy wines, foreign still light wines, sparkling wines, Commonwealth heavy and Commonwealth light wines. The figures correspond to quantities withdrawn from bond and a time-lag of three months between payment of duty and purchase by consumers is assumed. No allowance is made for changes in retailers' stocks.

Average retail prices per bottle are estimated for all the categories mentioned above except "other foreign heavy wines". The quantities in this case are very small and the price has been assumed to be the same as that of sherry.

It is assumed that about 60 per cent. of all these wines are purchased in bottles, and 40 per cent. in hotels and restaurants at prices 100 per cent. higher than the bottle price. A further 3 per cent. is added to the price of "foreign still light wines" to allow for vintage wines. Of the total estimated expenditure on imported wines, 5 per cent. is deducted for purchases charged to business accounts (again probably too small an allowance).

Expenditure at constant prices is obtained by revaluing, for each category separately, the quantity of wine consumed in any year at the average price calculated for the base year.

British wines

The net amount charged with duty comes from the *Trade and Navigation Accounts* but in this case no time-lag is assumed between the charge of duty and sale to consumers. Consumers' expenditure is calculated by applying an average price to the quantity of wine retained for home consumption.

Expenditure at constant prices is obtained by revaluing the quantity of wine consumed at the average price calculated for the base year. Changes in the composition of the group of British wines from year to year will affect the accuracy of the estimates.

Cider and perry

These alcoholic drinks are not subject to tax. The production of cider is reported to the Ministry of Agriculture, Fisheries and Food and it is assumed that there is no time-lag between production and consumption. The consumption of perry is believed to be very small and for practical purposes is assumed to be negligible. The average price for cider is known with fair accuracy so that consumers' expenditure at both current and constant prices can be readily determined. A deduction of 2 per cent. is made to allow for business expenditure.

3. Tobacco

Home manufactured

Estimates of consumers' expenditure on home manufactured tobacco products (including Cavendish manufactured in bond) have been supplied by the trade for all years since 1938. Figures of value, consumption and average prices are provided for the two main groups (a) cigarettes and (b) pipe tobacco, cigars and snuff, together with an estimate of the tax included in the average retail price of all products.

The figures cover sales to consumers throughout the United Kingdom. Tobacco bought since the introduction in October, 1947, of the coupon scheme for old age pensioners is here valued at its full retail price. The cost of this scheme to the government is obtained from H.M. Customs and Excise and is deducted from the total value of sales in order to arrive at expenditure by consumers. An estimate of the proportion, by weight, of tobacco consumed by old age pensioners in the form of cigarettes has been provided by the trade so that it is possible to allocate the amount to be deducted between cigarettes and pipe tobacco.

Expenditure at constant prices is obtained by revaluing sales of cigarettes and pipe tobacco, etc. separately at the average prices of the base year.

Imports of finished products

The quantities of imported tobacco products are obtained from the *Trade and Navigation Accounts*. Estimates of average retail values are provided by H.M. Customs and Excise.

A partial check on the total consumption of tobacco can be made by comparing the total receipts of duty by H.M. Customs and Excise with the amount of duty payable on the estimated quantity of tobacco sold to consumers.

4. Housing

This item relates to land and dwelling-houses used by persons, or non-profit-making institutions serving persons, for residential or recreational as opposed to business purposes, and land and buildings used by private schools, nursing homes and similar bodies.

The item consists of two main parts:

- expenditure on rent (including imputed rent of owner-occupiers), rates and water charges;
- expenditure by tenants and owner-occupiers on repairs and maintenance (including the cost of materials bought by the occupier) and fire insurance premiums less claims.

Expenditure on repairs and maintenance necessarily includes expenditure on *improvements* undertaken by occupiers; such improvements might better be treated as capital expenditure, like the acquisition of new dwelling-houses, but the information available does not at present permit a division between improvements and current repairs and maintenance.

The main source of the estimates is a number of sample inquiries into household expenditure:

- a. preliminary results of the Ministry of Labour's household expenditure inquiry made in 1953-54;

b. sample inquiries made by the Social Survey into expenditure on house repairs and maintenance in 1949, 1950 and again in 1955.

The information on *rent, rates and water-charges* and *insurance* available from the Ministry of Labour's household expenditure inquiry is classified under four main headings: (a) owner-occupied dwellings (giving annual value under Schedule A), (b) accommodation rented furnished, (c) accommodation rented unfurnished, and (d) rent-free accommodation. Figures are available not only of rent paid but also of rates, water charges and insurance paid by each group of occupiers. Since estimates are also available of the proportion of households in each category of occupier, it is possible to calculate the total rent, etc. paid by tenants and to impute a total rent to owner-occupiers. This imputed rent is the net Schedule A value adjusted for changes in the general level of rents as shown by indices of retail prices.

Persons living in institutions, and non-profit-making bodies, are ignored by the sample inquiries. A rough addition is made for non-profit-making bodies and for persons living in publicly-owned hostels. No addition is made for persons living in hotels, etc., because the notional rent included in their expenditure is treated as expenditure on "hotels and restaurant services" (see page 134).

The estimates of rents thus obtained relate to 1953-54. They are projected backwards and forwards by using an estimate (based on the Census of Population, 1951) of the "stock" of dwelling units as an index of quantity, and an adjusted version of the rent component of the Interim Index of Retail Prices as an index of price. This index was amended in January 1952, when its coverage was extended; although no alteration was, of course, made to published figures for periods before January 1952, the effect of the improvement would have been to raise the rent index throughout the whole period from June 1947 onwards. The adjustment referred to above allows for this factor. The estimate of expenditure on rent, etc. in 1938 is one made by the National Institute of Economic and Social Research.

For some purposes it is necessary to have a separate estimate of rates paid by consumers. This has been obtained by deducting, from the total rates paid to local authorities, the amounts paid in lieu of rates by the Central Government, British Transport Commission and the British Electricity Authority and by taking a proportion of the remainder. For the years 1946 and onwards this proportion has been treated as constant at 62 per cent. For 1938 it is assumed to have been about 70 per cent.

The material collected from sample inquiries about expenditure on *repairs and maintenance* covers periods of six months in 1949, 1950, 1953-54 and 1954-55. The estimates of payments to contractors for work done have been linked into a continuous series by assuming that the movement between the inquiry periods is the same as that shown by statistics of total work done on house repairs (excluding war damage repairs) collected by the Ministry of Works (see page 294). To revalue expenditure at constant prices, a price index is used which combines indices of the wholesale prices of materials used in house building and hourly earnings in the building and contracting industry. Separate estimates are made, from the sample inquiries, of occupiers' direct purchases of material for repair and maintenance work (which account for one-third of the total expenditure by occupiers on repairs and maintenance).

5. Fuel and light

Consumers' expenditure on fuel and light covers expenditure on all forms of fuel and power used for domestic heating and lighting but not the cost of hiring equipment⁽¹⁾.

Coal

Estimates of consumers' expenditure in Great Britain are based on weekly returns made by merchants to the Ministry of Fuel and Power through the operation of the House Coal Distribution (Emergency) Scheme. The returns give particulars of merchants' disposals of house coal, anthracite and boiler fuel to domestic consumers but include shops, offices and other establishments, partly or entirely non-residential, with an annual consumption of less than 100 tons of coal or coke.

These figures are adjusted to the definition of consumers' expenditure by deducting the non-personal consumption included in the so-called domestic disposals, and by adding part of the consumption of large non-industrial establishments to cover such consumers as private schools and charitable institutions.

In addition to the types of coal covered by merchants' returns, relatively small quantities of coalite, briquettes, ovoids and coal "outside allocation" are available for consumption. All disposals of these types of coal are assumed to go to domestic consumers. Estimates for Northern Ireland are based on colliery despatches of house coal to Northern Ireland.

Expenditure on each type of coal mentioned above is calculated by applying estimated average prices to the quantities going to consumers.

Figures of merchants' disposals were not available in 1938. For that year the quantities were obtained by deducting from the total output all coal known to have been used for industrial and other non-domestic purposes. The estimate of expenditure was made by the National Institute of Economic and Social Research.

There have been several different subsidies on coal paid at different times, e.g. the coal stocking bonus and the coal transport subsidy. These payments have been brought into the estimate of consumers' expenditure at factor cost in proportion to the quantity of coal going to consumers.

The estimate of consumers' expenditure includes all coal supplied free or at specially reduced prices direct from collieries to miners and other colliery employees. Quantities are reported to the Ministry of Fuel and Power in weekly returns. The coal is valued, for national income purposes, at pithead prices and included both as part of consumers' expenditure and in income from employment.

Consumers' expenditure on coal is revalued at constant prices by applying appropriate average values in the base year to the quantity used in each of eight categories of coal, coke and manufactured fuel.

Electricity

Before nationalisation (in 1948), annual estimates of electricity sales by authorised undertakings were available, analysed by type of consumer. The

⁽¹⁾ Most of the material on which the estimates are based is contained in the annual *Statistical Digest* of the Ministry of Fuel and Power.

figures were based on representative samples of returns made to the Electricity Commissioners and the Central Electricity Board which distinguished the following classes of consumer :

- Domestic and farm premises
- Shops, offices and other commercial premises
- Factories and other industrial premises
- Public lighting
- Traction

It was assumed that all the domestic and farm sales, and 10 per cent. of the sales to shops, offices, etc. represented consumers' expenditure. A small addition was made to allow for non-statutory undertakings and 1 per cent. was added to allow for consumption in Northern Ireland.

The price of electricity sold to consumers was estimated from sales revenue statistics collected by the Electricity Commissioners and classified according to the purpose for which the current was used (i.e. for lighting, heating and cooking ; power ; public lighting ; traction). A series was compiled for the average revenue per unit sold for lighting, heating and cooking and, on the basis of an estimate made by the National Institute of Economic and Social Research for the pre-war years, 90 per cent. of the price obtained was taken to be the appropriate figure to be applied for consumers' expenditure. This price series was linked to the electricity component of the Interim Index of Retail Prices.

Since the nationalisation of the electricity industry the statistics previously collected by the Electricity Commissioners and the Central Electricity Board have been compiled on a slightly different and wider basis than before and now cover all undertakings. Consumers' expenditure is taken as equal to sales to domestic premises *plus* an estimate of the domestic part of sales to farms *plus* 1 per cent. for the personal element in sales to non-industrial premises. A further addition of $1\frac{1}{2}$ per cent. is made to allow for consumers' expenditure in Northern Ireland.

The analysis by type of consumer is made annually. Quarterly estimates are obtained in the first place by assuming that the personal share of total consumption in each quarter is the same as the personal share of the consumption according to the latest available annual returns. Quarterly estimates so obtained are revised when more recent annual returns become available. This method does not allow for seasonal variations in the proportion of personal to total sales.

Consumers' expenditure at constant prices is obtained by applying the average revenue per unit from domestic sales in the base year to the number of units used by consumers in each year. In view of the variety of two-part tariffs, this method may not appear ideal. The implied price index must be regarded as an index of average values.

Gas

Returns giving the output of gas undertakings in Great Britain have been made weekly to the Ministry of Fuel and Power since the beginning of 1943. Once a year the total output is analysed by type of consumer into the following groups:

- Domestic
- Industrial

Government departments (general)
Service departments
Local authorities
Public lighting
Other services

For consumers' expenditure the whole of domestic sales is taken and 1 per cent. is added for the personal element in sales to non-industrial premises. A further 1½ per cent. of consumption by persons is added to allow for Northern Ireland. Quarterly estimates are obtained in the same way as that described above for electricity.

The price of the gas sold to domestic consumers is obtained annually from returns made by the gas industry. Quarterly price changes are estimated by applying the gas component of the Interim Index of Retail Prices.

The estimate for 1938 was made by the National Institute of Economic and Social Research.

Expenditure at constant prices is obtained by applying the average receipts per therm in the base year to the number of therms used in each year.

Other

Coke: Estimates of consumers' expenditure on coke are based on returns of disposals by merchants, gas works and coke ovens to domestic consumers (i.e. those taking less than 10 tons of coke a year). An allowance is made for the estimated personal element in the consumption of large non-industrial concerns. Consumption in Northern Ireland is allowed for by adding 2 per cent. to the figures for Great Britain. Prices are estimated by the Ministry of Fuel and Power from a large number of quotations for different areas of Great Britain. Expenditure at constant prices is obtained by applying the average price in the base year to the tonnage used in each year.

Kerosene: Estimates of consumers' expenditure on kerosene are obtained quarterly from a trade source. Until recently the total available for domestic use was controlled but rough adjustments were necessary to bring the estimates into line with the definition of consumers' expenditure. Expenditure at constant prices is obtained by applying the estimated average price in the base year to the quantity used in each year.

Fuel oil: The total value of fuel oil is estimated by the Ministry of Fuel and Power. At present the amount used by personal consumers is very small.

Wood: There are no statistics available for this item and the figure of consumers' expenditure is guessed.

6. Durable household goods

Furniture and furnishings: furniture and bedding, furnishing fabrics, household textiles and floor coverings.

Hardware, radio and electrical goods: hardware (including pottery), glassware, cutlery, gas cookers, non-electrical household appliances, perambulators, wheelbarrows, radio and television sets, gramophones and accessories and electrical appliances.

Estimates of expenditure on each of these groups of durable household goods fall into three stages: (i) those made for the years 1938-1947, (ii) those

made for the years 1948 and onwards, subsequently revised in the light of (iii) revised estimates for 1946 and onwards. These are dealt with in turn below.

(i) *Estimates for 1938-1947*

The starting point was the 1935 Census of Production with adjustments for small firms not covered by the census and for exports, imports, distributors' margins and purchases by business.

These figures could be projected forward by using movements in retail sales. During the war years, however, it was possible to make independent estimates of consumers' expenditure on these goods. After the introduction of purchase tax in 1941 the quarterly returns of tax collected enabled a direct calculation of expenditure on taxable goods to be made; purchase tax relates directly to wholesale values so that appropriate additions had to be made to estimates derived from this source to cover retailers' mark-ups. The value of articles not subject to purchase tax was estimated from manufacturers' returns giving information about all the more important items falling within this category (e.g. utility furniture). A time lag of three months between wholesale and retail sales was generally assumed and adjustments were made for stock changes where these were known or suspected to have occurred.

This direct estimate was particularly important for furniture and furnishings because the retail sales index numbers reflected movements in second-hand goods (not included in the expenditure figures for this category) as well as new furniture. During the war there was a great increase in the sales of second-hand goods and this was reflected in a divergence between the sales figures obtained by projection from the 1935 base and the estimates from purchase tax and production data. This divergence gave a measure of the expansion of trade in second-hand furniture and furnishings.

Similar direct estimates of sales of new goods were made for each year after 1943, but after the end of the war these gradually became more difficult. Changes in, and exemptions from, purchase tax made the tax figures difficult to interpret, some production data were no longer available and there was also the problem of the renewed importance of stock changes.

(ii) *Estimates for 1948 and onwards*

By 1948 the coverage of the retail trade statistics had been widened, and these improved figures were now mainly relied upon in the calculation of consumers' expenditure. In 1948 and later years the retail trade statistics were used to carry forward the earlier estimates which originated in the war years. When the results of the 1948 Census of Production became available it was possible to make an independent estimate for the year 1948 by the methods applied to the 1935 Census.

(iii) *Revised estimates for 1946 and onwards*

When the results of the Census of Distribution, 1950, became available an independent estimate of sales of durable household goods was prepared and modified by the method outlined in the general note (pages 99 to 100) on the statistics of wholesale and retail sales.

The revision produced rather higher estimates than those given by the earlier methods. Apart from changes in coverage, the difference in the estimates for furniture and furnishings can be accounted for by the removal of

certain inconsistencies in the treatment of second-hand goods and hire purchase sales in the previous estimates; for other categories it is due mainly to an underestimate of the increase in retail outlets for radios, etc. immediately after the war and of the expansion of sales by gas and electricity boards.

For revaluation at constant prices, household durable goods are divided into as many sub-groups as possible since price movements vary considerably among the many different goods included. Since 1947 the series for durable goods in the Interim Index of Retail Prices has been used, adjusted to allow for different price movements in that part of the field outside the scope of the index.

The estimate of consumers' expenditure at factor cost is complicated by the heterogeneous nature of the goods included in the group. Assumptions have to be made about such matters as the duties on raw materials (such as timber and silk) used for consumer goods, drawback of duties on goods re-exported, the indirect incidence on exports of taxes on expenditure, and the extent to which purchase tax falls on consumers' purchases as distinct from business expenditure.

7. Other household goods

Matches

Quarterly figures of the supplies available for the home market, in million boxes of 50, are published in the *Monthly Digest of Statistics*. From these figures a deduction of 10 per cent. is made to allow for consumption by public authorities and business concerns; the remainder is then valued by applying an average price per box.

Soap and soapless detergents

Estimates of domestic expenditure on soap were supplied by the trade for the years 1938 to 1941. Details of quantity, average price and value were given for several different types of soap, e.g. hard, soft, toilet, powders, flakes, scourers, etc.

From 1942 to 1951 most soap was rationed and came under the control of the Oils and Fats Division of the Ministry of Food. Estimates of consumers' expenditure for this period and subsequently have been made by the Ministry on the basis of information supplied by the trade. The chief difficulty in estimating expenditure lies in the lack of reliable information about prices. The quantities available are fairly accurately known but the very wide range of prices for almost every type of soap may well lead to considerable errors in the estimates of value.

The expenditure figures are revalued at constant prices by applying the average price of each type of soap to the quantity consumed in the period. The accuracy of the result depends on the assumption that there are no great changes in the pattern of expenditure within the various types of soap.

Estimates of consumers' expenditure on soapless detergents are made by the Ministry of Agriculture, Fisheries and Food from information supplied from trade sources. A sample inquiry into expenditure on soap and soapless detergents, among other items, is being conducted early in 1956 and the results may necessitate some revision of the estimates.

Other cleaning materials, etc. : polishes, candles, night lights, soda, disinfectants, other cleaning materials, etc.

Apart from estimates for polishes made for some years by the Board of Trade from production figures and estimates for candles and night lights provided from time to time by the trade, there is very little information available for the individual items of this group. An estimate of expenditure on the group as a whole has been made from household budget material available from Social Survey sample inquiries and from the Ministry of Labour expenditure inquiries in 1937-38 and 1953-54.

The estimate for the group as a whole has been revalued at 1948 prices by using the "miscellaneous household goods" component of the Interim Index of Retail Prices.

8. Clothing

Footwear : this includes all new boots, shoes, slippers, etc., but excludes socks and stockings, repairs and repair materials.

Other clothing : this includes all kinds of garments, dress materials, millinery, knitting wool, haberdashery, etc., and an allowance for the making up of consumers' own materials. It excludes expenditure on repairs and alterations. The figures are divided between men's and boys' wear on the one hand, and women's, girls' and infants' wear on the other.

The estimates of expenditure on clothing, like those for durable household goods, fall into three groups: (i) those for the years 1938-47, (ii) those for 1948 and onwards, subsequently revised in the light of (iii) revised estimates for 1946 and onwards.

(i) Estimates for 1938-47

The original estimate of personal expenditure on clothing and footwear was based on information provided by the Census of Production for 1935. First an estimate was made of the factory value of the goods in this category produced in that year. An allowance was made for the output of small firms not covered by the Census. Where separate figures were not available for men's and boys' wear on the one hand and women's and girls' on the other (e.g., in hosiery) the division had to be estimated. An addition was made for imports, including duty, and a deduction for exports. The resulting total was brought up to retail value by adding the distributive margins appropriate to the different types of clothing. A deduction was made for business purchases (uniforms for transport workers, police, etc.). The figures were carried forward by reference to the movement in sales by large retailers and wholesalers.

For the years 1942-44, while clothing was rationed and wartime controls were in force, several independent estimates were made which agreed very closely with one another and with those derived from the 1935 base. The following sources were available:

a. Returns from manufacturers gave the value of supplies to the home civilian market, brought up to retail value by allowing for distributive margins and, where appropriate, purchase tax. Because of stock variations, these estimates could not be linked very closely with consumers' expenditure in any individual year.

b. Information was collected regularly from a sample of consumers about the garments they bought with their clothing coupons and, in most cases, about the prices paid. This method could not be applied to unrationed goods, such as hats, but it provided a valuable estimate of the amount of cloth as such purchased by consumers which was not available from manufacturers' returns. This was valued on the basis of the average expenditure per coupon in a sample of shops.

c. Information about certain items, for which production statistics were not complete, was obtained from a sample of retailers who stated the ratio of their sales of these categories to their total sales of women's wear.

d. From receipts of purchase tax on clothing and footwear, separating items taxed at different rates, the wholesale value of sales of taxable goods could be estimated. In the early years of purchase tax, when "utility" clothing was still taxable, the tax figures provided a completely independent check over almost the whole field apart from children's clothing.

e. The ratio of money sales of apparel to clothing coupons surrendered was known each month for a large sample of retailers. This provided a rough check on the total value of all apparel, including unrationed goods.

The estimates derived in these ways were carried forward in later years by means of the retail trade statistics but direct estimates, mainly from production data, were also made for each year 1945 to 1947. Such estimates became increasingly difficult to make as war-time sources of information disappeared. The reliability of such estimates from production data was also decreased as movements in wholesale and retail stocks again became significant in relation to total output.

(ii) *Estimates for 1948 and onwards*

With the loss of some of the material which formerly made possible several independent estimates of consumers' expenditure, the retail trade figures became the main basis of the calculation and were used in 1948 and subsequently to carry forward the earlier estimates. Later the Census of Production for 1948 provided information on which independent estimates of consumers' expenditure for the year 1948 were based. The method used was the same as described in connection with the 1935 Census.

(iii) *Revised estimates for 1946 and onwards*

The method used to arrive at a base year figure (1950) is the same as for durable household goods. This is described in the general note on statistics of wholesale and retail sales (pages 99 to 100), and rests principally on the Census of Distribution, 1950.

The general effect of this revised method was to produce higher estimates than those given by method (ii). For women's wear, one specific upward adjustment (for dress materials) accounted for a fairly large part of the difference. For men's wear and footwear, the upward adjustments were more general.

During the last few years consumer surveys have provided supplementary information for the expenditure estimates and have been used to provide price data, and supplementary information on such items as dress material and knitting wool.

The clothing component of the Interim Index of Retail Prices provides the basic data for revaluing the expenditure estimates at 1948 prices. This is adjusted, where necessary, to allow for different price movements in that part of the clothing market not covered by the index and for such seasonal factors as clearance sales which are not fully reflected in the index.

9. Recreational goods

Books

No figures relating to retail sales of books are available. Estimates of consumers' expenditure are based on trade estimates of the value of sales by book publishers. These are available quarterly. After adjusting for exports, the normal distributive mark-up is applied and the value of imports added. Deductions, which are entirely conjectural, have then to be made for purchases by business firms and by public authorities for use in offices, libraries and schools. Together these are assumed to amount to 10 per cent. of the original retail value. No allowance can be made for changes in retail stocks.

A rough price index has been constructed on the basis of information supplied by the trade. This has been used to obtain estimates of expenditure at constant prices.

Newspapers

Three sources of information have been used since 1938. For the years 1938-1944 detailed and comprehensive estimates were published in *Statistics of Advertising* by R. Silverman (1946). These were accepted without adjustment for use in the estimates of consumers' expenditure. From 1944 to 1950 figures were provided at quarterly intervals by the London Press Exchange. The figures related to the circulation and sales revenue of a large sample of publications, classified into three main groups: (i) national daily and London evening papers, (ii) national and provincial Sunday papers and (iii) provincial dailies. Adjustments were made to the 1944 figures so that the estimates used agreed with Silverman's figures for that year. No figures for suburban and provincial weekly and bi-weekly etc. papers were available after 1944, and the changes in this group had to be guessed. For the years 1948 and 1949, and quarterly since 1950, information has been available from official sources. Up to the end of 1952 this information related only to the more important groups of newspapers but from the beginning of 1953 figures covering virtually the whole field have been provided.

It is assumed that purchases of newspapers by business are balanced by purchases of technical papers by persons. This is an arbitrary assumption for which there is no statistical evidence.

An index of volume has been constructed for the years 1948 and onwards from material relating to the number of copies sold of the national dailies (morning and evening) and the national Sunday papers. This index provides the basis for revaluing consumers' expenditure in terms of 1948 prices. For the years before 1948 the revaluation has been made from information about price changes from data provided by the National Institute of Economic and Social Research and the London Press Exchange. This material is sketchy and variable in quality, particularly for the later years of the period.

Magazines etc.: All periodicals other than newspapers and miscellaneous publications, including H.M.S.O. papers, maps, time-tables, catalogues, etc.

A comprehensive estimate of expenditure on this group of items was made by the National Institute of Economic and Social Research for the year 1935. It was assumed that the figure would have increased slightly by 1938. As with newspapers, consumers' expenditure was assumed to relate to all magazines, etc., except trade and technical journals and the estimate for 1935 was sufficiently detailed to enable this item to be excluded.

For 1938 and later years the London Press Exchange estimated expenditure on publications in a sample covering the more important weekly and monthly magazines. Their estimate for 1938 amounted to roughly half the total indicated by the National Institute of Economic and Social Research figures. For the years up to 1950, while the London Press Exchange compiled the figures, it was assumed that their estimates continued to cover about 50 per cent. of the total for the group.

The information now used relates to the circulation and prices of the more important general interest and women's magazines and is published in the advertising magazine *Impact*. This material probably covers about 75 per cent. of the total. Of the remainder the only large group is children's magazines on which expenditure is thought to account for a further 18 per cent.

Information about price movements for the group as a whole is very scanty and the estimates of expenditure at constant prices must be accepted with caution.

Other

This consists of three main parts:

- (i) Other recreational equipment: musical instruments, toys and sports goods, photographic and non-medical optical goods, miscellaneous goods connected with arts, crafts and hobbies not elsewhere specified.
- (ii) Horticultural goods: flowers, seeds, plants, etc., and miscellaneous garden equipment not specified elsewhere.
- (iii) Domestic pets: domestic pets of all kinds, backyard poultry, etc., racing and riding horses, expenditure on animals' foods, veterinary articles and services, and on dog and gun licences.

Estimates of expenditure on group (i) have been based on material from the Census of Production, 1948, and are carried forward by the statistics of retail sales.

For groups (ii) and (iii) there is little reliable information either on the absolute magnitude of the figures or on the year to year movements. Consumer surveys have thrown some light over part of the field and the census of distribution has provided some further material but the gaps have had to be filled by guesswork and the margin of error in the estimates is large.

10. *Chemists' goods*

Drugs, medicines and medical goods, toilet requisites and toilet preparations (excluding toilet soap but including cosmetics).

This category excludes drugs, etc. supplied under the National Health Service, whether or not these are paid for in part by consumers. Expenditure on chemists' goods has been estimated directly for 1950 from the census of distribution. The estimate is carried forward by the retail trade statistics.

11. *Other goods*

Stationery and writing equipment, paper goods, umbrellas and walking sticks, handbags and purses, etc., travel goods, watches, jewellery, pen knives, smokers' requisites, pictures, frames, vases and miscellaneous fancy or ornamental articles for personal or domestic use.

The estimates for this group were formerly obtained from the censuses of production and distribution, as for durable household goods. The group then included goods now classified as "other recreational equipment" and "chemists' goods", and also clocks and perambulators (now included in durable household goods). The figures for the narrower group now given are the remainder of the wider group formerly used and are clearly unsatisfactory. An independent estimate for the group will be made as soon as possible.

12. *Private motoring and cycling*

The main problem in this group lies in the allocation of expenditure between personal and other users. The purchase of private motor vehicles by business and professional users such as commercial travellers, doctors and nurses, is regarded as fixed capital formation; the running costs for business and professional use are similarly excluded from consumers' expenditure.

Vehicles, new and second hand:

Purchases less sales by persons of motor cars, motor cycles, motor accessories, pedal cycles and accessories.

(i) *Cars*

Monthly figures are available⁽¹⁾ of the number of cars registered for the first time in the United Kingdom, classified according to taxation groups.

The Ministry of Supply has calculated the average retail value per car (excluding purchase tax) in each group for the year 1948, so that the total value of new cars registered in any year can be obtained at 1948 average values, excluding tax.

The Board of Trade produces a quarterly index of retail prices of new cars, excluding tax. This index is used to convert the series at 1948 average values into a series at current prices excluding tax. An addition is then made for purchase tax.

The allocation between personal consumers and business of the total value of new cars supplied to the home market, obtained in the way described, is not known. Furthermore, it is necessary to include in consumers' expenditure not only the value of new cars bought but also the whole of the cost of second-hand cars bought from the business sector. Dealers' margins on cars changing hands within the private sector are included.

The following procedure, admittedly very arbitrary, is adopted. For the years 1946 to 1951 inclusive, about 50 per cent. of the value of new cars registered in the United Kingdom has been taken to represent the sum of consumers' expenditure on new cars and second-hand cars bought from business. This assumption implies that the bulk of the new cars sold in the home market over this period went to the business sector and therefore formed part of fixed capital formation. It allows for the fact that the more expensive cars tend to be bought by businesses.

⁽¹⁾ Summarised in the *Monthly Digest of Statistics*.

With the great increase after 1951 in the supply of new cars to the home market, this assumption has been modified. It has been assumed that since 1951 business expenditure on cars at current prices has varied roughly in proportion to total fixed capital formation in industry. Thus most of the increase in new registrations of cars on the home market since 1951 has been allocated to consumers' expenditure. In 1954, consumers' expenditure on new cars *plus* purchases of second-hand cars from business is taken to be equal to about 70 per cent. of the value of new cars registered in the United Kingdom.

It also follows from the method of estimation just described that rather more than half of the total of new cars registered is assumed to be bought by consumers.

Consumers' expenditure at constant prices is estimated by applying the index of car prices described above, with allowance for purchase tax.

(ii) *Motor cycles (including motor scooters), motorised bicycles and cycle motors*

Expenditure on motor cycles is calculated in the same way as expenditure on motor cars, except that a deduction of only 2 per cent. is made to allow for business expenditure. The number of motor cycles licensed is used as an indicator of the volume of expenditure; the base year average value is taken from the Census of Production, 1948, *plus* an estimated distributors' margin and the appropriate purchase tax. The trend of prices is taken from an index compiled by the Board of Trade.

In the last few years there has been a big increase in the number of motorised bicycles on the road but no firm figures are available of the number of separate motor units purchased. It has been assumed that this number approximates to the difference between the number of new registrations of all types of cycle for licensing purposes and the number of motor cycles produced as such and used for the estimate of expenditure on motor cycles. The value of these motor units is then obtained by applying an estimated average price.

(iii) *Pedal cycles and parts*

The two sources used for estimating expenditure on cycles are the quarterly return of purchase tax receipts and the figures of production for the home market. The purchase tax receipts provide an indication of the wholesale value of home sales, while the production statistics record the number of cycles delivered for the home market. Expenditure on spare tyres and tubes is estimated from statistics published in the *Rubber Statistical Bulletin*.

Running costs

(i) *Petrol and oil*

Quarterly figures of the price, quantity and value of petrol and oil used for private motoring are provided by the trade. While petrol was rationed, it was assumed that all "basic" petrol was bought out of personal income together with one-fifth of the supplementary petrol issued to private car users with special needs. After petrol rationing ceased, it was assumed that personal consumers took up most of the extra supplies, consumption by commercial users being assumed to continue its previous trend. The quantity

of lubricating oil used is fairly closely related to petrol consumption, so that personal expenditure on this item can be readily determined once expenditure on petrol has been estimated.

(ii) *Other running expenses*: spare parts and accessories, garaging costs, repairs and maintenance and insurance of vehicles.

For this group of expenditure, information is very scanty. Expenditure on insurance of vehicles, represented by the premiums paid less the claims received, is taken from the summarised accounts of insurance companies. It is assumed that personal expenditure accounts for 40 per cent. of the total. Expenditure on spare tyres and tubes for cars is estimated from production figures adjusted for exports. There are no reliable figures for other spare parts and accessories or for the other items in this group. Some questions on motoring expenditure have been included in sample surveys and the results have been used to give a broad estimate of expenditure on motoring as a whole from which the running expenses not separately estimated can be deduced⁽¹⁾. The margin of error is large.

It has been assumed that expenditure at constant prices in this group on motors and motor cycles is proportional to the consumption of petrol and that the price level for the group as a whole varies with the price, exclusive of purchase tax, of new cars.

(iii) *Motor vehicle licences*

Particulars of receipts from motor vehicle duties, analysed according to the type of vehicle, are produced annually by the Ministry of Transport and Civil Aviation. Figures of total receipts are also available quarterly.

The detailed receipts, after allowing for rebates, are first divided into four classes: cars, cycles, driving licences and the rest. The proportion of payments in the "private car" class to be treated as personal has necessarily varied since 1938. Before the war it was taken to be 70 per cent. The proportion was reduced to 30 per cent. by 1943, but after the end of the war it was increased and is now taken to be 50 per cent. All licences for motor cycles and all driving licences are treated as personal.

13. *Travel*

Railway

Estimates of consumers' expenditure on railway travel are based on regular returns made by all the railway companies before nationalisation (in 1948) and by British Railways and London Transport since that date. From the passenger receipts for main line travel, a deduction is made to allow for government and business travel and an addition of 1½ per cent. to allow for travel in Northern Ireland.

The deduction is made in the following way. For 1938, the London Midland and Scottish Railway Company made a thorough examination of their accounts, considering separately all the different categories of bookings. It was then estimated that, after the deduction of government expenditure, personal expenditure accounted for about 85 per cent. of the total for main

⁽¹⁾ For consistency, consumers' expenditure includes goods and services covered by insurance claims.

line travel and about 95 per cent. of the total for underground travel. These percentages formed the basis of the deduction until the end of 1947 when separate figures for government expenditure ceased to be provided. It has been assumed that government and business expenditure together accounted for 24 per cent. of total passenger receipts for main line travel in 1948 and 1949. From 1950 onwards the figure has been slightly reduced. A deduction of 5 per cent. from passenger receipts for London Transport railway travel has been applied throughout the whole period.

The estimate of expenditure at constant prices is consistent with the methods used for determining real output of passenger transport (see Appendix IV, page). For "ordinary" passenger travel on British Railways, expenditure is deflated by an index of fare levels, which allows for changes in the proportions of travel in the various categories (full fares, excursions, etc., hulk travel; and monthly returns until they were abolished in 1952). For travel on season tickets and "early morning" (formerly workmen's) tickets, the number of passenger miles is taken. Similar particulars are not available for London Transport railways, and the number of car-miles is taken as the indicator of volume of travel.

Other travel

(i) Buses, coaches, trams and trolley buses

Expenditure on these categories of travel is taken from annual and quarterly statistics of passenger receipts compiled by the Ministry of Transport and Civil Aviation, published in the *Monthly Digest of Statistics*. To the figures as published, which relate to Great Britain, 2 per cent. is added for Northern Ireland, and 3 per cent. is deducted for public authority and business expenditure.

The estimation of expenditure at constant prices on travel by road passenger vehicles is complicated by the considerable variations both in the absolute levels of fares and in the increases which have taken place in different parts of the country. For the London area, changes in the fare levels were known with reasonable accuracy until the travel charges as a whole came up for review in 1950. Since that time the information has been very scrappy and the indices have become highly conjectural and much less reliable than before. In the absence of other indicators, a price index has been derived from changes in receipts per passenger journey and, for London only, receipts per passenger mile.

(ii) Taxis and private hire cars

Estimates of expenditure on this form of travel are very crude. Some information is available from trade sources which can be used as a guide to mileage run; the average receipts per mile is a guess.

(iii) Sea travel

For estimating consumers' expenditure, sea travel has been divided into short distance travel (i.e. local trips, pleasure cruises and travel to European countries) and long distance travel.

The estimates for travel to European countries and local journeys are based solely on the passenger receipts for ships owned by British Railways, 80 per cent. being taken as personal expenditure. The figures are expressed

in terms of 1948 prices by using an index of British Railways passenger rates.

For pleasure cruises, the estimates are obtained by multiplying the number of cruises, a figure supplied by the Board of Trade, by an average fare supplied by a firm of travel agents. This item is very small and no allowance has been made for variation in rates since 1946.

For long distance travel, the number of journeys made by United Kingdom residents to each country is obtained by the Board of Trade from the statistics of passenger movements⁽¹⁾. Expenditure is estimated by applying typical fares supplied by the British Travel and Holidays Association. Consumers' expenditure is taken to cover all expenditure on emigration (*less* expenditure by the government on assisted passages) and 25 per cent. of expenditure on temporary journeys.

(iv) *Air travel*

Expenditure on travel from the United Kingdom to places abroad, other than Ireland or the Channel Islands, is estimated from the passenger takings for all journeys, wholly or partly external to the United Kingdom, taken by United Kingdom residents. The number of passenger journeys, classified broadly according to country of destination, is available from the statistics of passenger movements, so that it is possible to make a rough estimate of the mileage covered. The number of journeys outside Europe is multiplied by the average fare per passenger mile for journeys by B.O.A.C.; for journeys within Europe, the average B.E.A. fare is taken. It is assumed that 75 per cent of the European journeys and 10 per cent. of the remainder are personal.

Expenditure on travel to Ireland has been estimated by using statistics of passenger movements between United Kingdom airports and Dublin (given in the *Statistical Abstract of Ireland*), applying B.E.A. rates per passenger mile. Three quarters of the resulting figure of expenditure is taken as personal.

Total expenditure on air travel between places within the United Kingdom, and between the United Kingdom and the Isle of Man and the Channel Islands, is obtained by applying B.E.A. rates per passenger-mile to total passenger-miles flown. All travel between the United Kingdom and the Channel Islands, and 10 per cent. of the remainder in this group, is taken to be personal.

14. *Communication services*

Postal: postage on letters, parcels, etc., and the poundage on postal and money orders.

Estimates of traffic and of expenditure at current and constant prices, are made quarterly by the Post Office for the three main categories of postal services, namely correspondence, parcels and remittance services.

The starting point was an estimate of personal expenditure on all postal services for a pre-war year. The Ministry of Labour's household expenditure inquiry for 1937-38 gave a figure of 5d. for the weekly expenditure of the average working-class family. This figure was assumed to apply to some ten million families. A sample drawn subsequently from the higher income

⁽¹⁾ The statistics are summarised in the *Annual Abstract of Statistics*, 1955, Tables 37-40.

groups, including civil servants and members of the professions, yielded an average weekly expenditure of 11½d. which was applied to three million families. From these figures it was estimated that total expenditure was running at an annual rate of about £18 million.

An independent calculation was also made from the supply side. For 1938-39, supplies of the main categories of expenditure were analysed into smaller groups—inland letters, postcards, printed papers, newspapers, registrations, parcels, etc.—and certain broad assumptions were made about the ratio of personal to total expenditure within each group. The aggregate figure for personal expenditure proved to be very close to the £18 million obtained by the sample surveys.

The Post Office has relied on the second method for keeping the estimates up-to-date. No further sampling has been done but assumptions have had to be made about changes in the ratio of personal to total expenditure. During the war it was assumed that the whole of the increase in traffic in the predominantly personal classes—due mainly to correspondence with members of the Forces and with evacuated persons—could be counted as personal; decreases in the other classes were attributed to a falling-off of business expenditure. Since the end of the war these assumptions have been modified. Further adjustments will probably have to be made in the light of the results of the 1953-54 household expenditure inquiry.

Telephone and telegraph: telephone charges, telegrams and cablegrams.

Estimates of expenditure on telephone rentals and local and trunk calls in terms of current and 1948 prices are prepared quarterly by the Post Office on the basis of a periodic sample of accounts. When a new sample reveals a different pattern of expenditure, and there is no reason to suspect that the change was sudden, revisions are carried back to earlier estimates in order to spread the changes gradually over a period.

The allocation of total receipts for telephone services between the personal and business sectors is necessarily rough. Telephone subscribers are classified by the Post Office into "residential" and "business" users according to the rentals paid and this division forms the basis of the allocation. It is not known, however, to what extent rentals of telephones installed in private houses and the calls made from them may be charged to business expense accounts. Assumptions must also be made about the proportion of calls made from public call-boxes which should be treated as personal.

There is less information about the allocation of receipts from telegraph services and the margin of error in the estimate of consumers' expenditure on this item is higher. It is hoped that the 1953-54 household expenditure inquiry may provide material to enable the estimates for the whole of this group to be put on a firmer basis.

The Post Office surplus on commercial accounts is regarded as a tax on expenditure (see page 186) and, for estimating expenditure at factor cost, is allocated between the various classes of user. The proportion estimated to fall on consumers' expenditure was one quarter up to 1944 and one third from 1945 onwards.

15. *Entertainments*

Cinema: admissions to cinemas.

Other: admissions to theatres, concert halls, music halls, sporting events, dance halls, skating rinks and all other places of public amusement, the hire of radio rediffusion services and of radio and television apparatus and expenditure on broadcast receiving licences.

Admissions to most forms of entertainment are subject to tax. Duty is chargeable on payments for admission to theatres, concerts, cinemas and sporting events (but not, since 1953, to cricket matches). It is not chargeable on payments made by persons for the right of entertaining themselves e.g. by dancing or playing games.

Duty is not payable:

- (i) on charges for admission not exceeding a certain sum. (In 1938 the exemption limit was 6d. In October 1940 it was lowered to 3d. Since then there have been several changes and at present it is 1s. for theatres and sporting events and 9d. for cinemas.)
- (ii) if the entertainment qualifies for exemption on various prescribed grounds. The scope of exemptions has been changed from time to time, and now broadly covers certain entertainments given in aid of charity or by partly educational not-for-profit bodies, together with amateur stage plays, concerts, etc., and amateur sports and games.

Until the end of 1951-52 there were two scales of entertainments duty. The higher scale applied to cinemas and, until 5th May, 1946, to all sporting events. The lower scale applied to other entertainments where the performers were actually present, i.e. mainly theatres, concerts, music halls and circuses and, after 5th May, 1946, to sporting events except racing, which remained on the higher scale.

In the 1952 Budget a new intermediate scale was introduced to apply to all forms of racing and other sporting events. Sports for which duty had been chargeable at the higher rates (i.e. racing) came under the new intermediate scale after 30th March, 1952. Sports for which duty was previously chargeable at the lower rates came under the new intermediate scale after 13th September, 1952.

The rates of duty on each scale vary with the charge for admission. From information available to them from returns made for payment of entertainments duty, H.M. Customs and Excise are able to estimate fairly closely expenditure on the main classes of dutiable entertainments.

When the exemption limit for entertainments duty was reduced from 6d. to 3d. (in October 1940) H.M. Customs and Excise were able to make a rough estimate of the incidence of these low priced admissions then included for the first time. It was thus possible to adjust the figures of expenditure on taxed admissions for earlier years so as to bring in prices between 3d. and 6d.

For the past five years, the Board of Trade has compiled statistics relating to cinemas in Great Britain based on quarterly returns made by all cinemas⁽¹⁾.

⁽¹⁾ Published quarterly in the *Board of Trade Journal*. See also H. E. Browning and A. A. Sorrell, 'Cinemas and Cinema-going in Great Britain', *Journal of the Royal Statistical Society*, Series A.Vol. CXVII (1954) Part II.

These returns provide somewhat more comprehensive figures of expenditure within each quarter than the estimates made by H.M. Customs and Excise but the two sets of results are extremely close.

The entertainments duty receipts relate only to Great Britain. Allowance for expenditure in Northern Ireland is made by adding 2 per cent. to the figure for expenditure on taxed and untaxed entertainments.

There remains a substantial expenditure on untaxed amusements about which there is little direct information, including dance halls and skating rinks. Only the roughest guesses, based largely on the household expenditure inquiry of 1953-54, can be made.

It is possible to make only a crude estimate of expenditure at constant prices. The only available information relates to average prices of admission. How far variations in these prices reflect genuine changes in price levels must depend to some extent on whether or not there are shifts from one price of admission to another.

The group also includes entertainment from radio and television sets. The value of the sets themselves is, of course, included at the time of purchase in the household goods category but expenditure on licences, which is regarded as payment for a service, is included in this item. Expenditure on radio rediffusion rentals is also included. Information about both these items is obtained from the Post Office.

16. Domestic service

This includes expenditure on the wages, in cash and kind, and the national insurance contributions of indoor and outdoor private domestic servants. It excludes expenditure ranking as business expenses, e.g. by doctors and dentists.

Until July 1948, there were no regular statistics relating to the number of domestic servants. Indoor domestic servants were not insured under the old unemployment scheme and did not enter the Ministry of Labour employment statistics until the National Insurance scheme was introduced. Moreover, there is no reliable information about wage rates.

For the years 1938 to 1948 the basic figure used for the number of private domestic servants was obtained in the first place from the 1931 Census of Population. Drastic adjustments were needed for the war years and these could be no more than rough guesses taking into account some approximate figures from the registrations of women during the war. A deduction of 10 per cent. was made throughout the whole period to allow for servants employed on business accounts.

Since the National Insurance scheme came into operation in 1948, a figure of the number of insured domestic servants has been available. The Census of Population of 1951 showed a somewhat higher figure, which may include uninsured casual or part-time workers, charwomen, etc. The census figure is taken and extended by changes shown in the Ministry of Labour statistics.

The wages, including board and lodging, of domestic servants are derived chiefly from figures in sample household budgets relating to expenditure on domestic service. Further assistance on wage rates was obtained from a

domestic service agency. So many assumptions have to be made before a figure for the average wage is reached that the final estimate for consumers' expenditure may well be subject to a wide margin of error. The figure included in consumers' expenditure is, however, consistent with the corresponding estimate of domestic servants' income incorporated in total personal income (see page 90).

17. *Insurance*

The estimate of consumers' expenditure in each year on all forms of life assurance is taken to be the sum of the expenses of management and shareholders' surplus appropriate to business transacted within the United Kingdom by life assurance and industrial assurance companies and collecting societies established in the United Kingdom⁽¹⁾.

The estimates of consumers' expenditure on other forms of insurance (industrial, household, accident, etc.) exclude the value of claims paid, since repairs and replacements of the objects insured are included in consumers' expenditure on the items concerned, and claims paid that are not used in purchasing goods do not form part of consumers' expenditure. Expenditure on insurance is therefore measured by total premiums in respect of the year less claims paid during the year. It is necessary to make assumptions about the proportions of personal to business expenditure appropriate to each type of insurance, since separate figures are not available.

Expenditure on insurance at constant prices is estimated in the same way as the output of insurance at constant prices, included in the real product estimates (see Appendix IV, page 354). For most types of insurance, the estimated expenditure at current prices is deflated by a general price index; but, in the case of life assurance, the constant price estimates are based on the average of the movements in the total sum assured and in the total funds held, each deflated by a general price index.

18. *Other services*

The estimates for many of the items in this group, which amounts in total to over £600 million a year, are very weak and separate figures for them are not shown in the Blue Book tables. To give some indication of their relative importance, a rough figure of current expenditure on each item is shown below against the appropriate sub-heading.

(i) *Medical services*

Services to private patients (£5 million)

This item consists of the whole of the fees paid by persons to members of the medical profession, including fees charged for services (but not for food, etc.) in private nursing homes and voluntary hospitals.

An estimate of the gross salaries received by the medical profession in 1938 was made, after consultation with the British Medical Association, by attaching average salaries to the numbers of consultants, doctors, dentists,

⁽¹⁾ For a general explanation of this treatment see page 56.

nurses, etc., estimated to be engaged in private practice or in voluntary hospitals or private nursing homes. The income received on account of panel patients was then deducted. No further information for the item as a whole was available until the *Report of the Inter-departmental Committee on the Remuneration of General Practitioners*(¹), (the "Spens Committee") was published in 1946. Material from this Report was used to make a more up-to-date estimate of the salaries received by general practitioners. Confirmation of the order of magnitude of the item as a whole was obtained from the results of a survey undertaken in 1948 which provided a figure for the average weekly expenditure per household on medical services.

Until 1949, the series at constant prices treated the quantity of services provided over the series of years as being proportional to the number of civilians excluding those insured under national health insurance. The volume and value series are thus not on the same basis, and the "price index" implied by the division of one series into the other has little significance in itself.

Since the introduction of the National Health Service most of consumers' expenditure on this item has disappeared. A small amount, for which there is no real evidence, is, however, retained to cover fees from private patients.

The National Health Service (£25 million)

This item consists of all payments by persons for goods and services provided under the National Health Service, i.e. drugs and appliances and medical, dental, optical and hospital treatment. The figures are obtained from the published accounts (see page 228, item 21).

No attempt has so far been made to revalue this item in terms of 1948 prices, mainly because, in the case of prescriptions and charges for dental services, the payments are fixed in money terms and are not directly related to the value of goods or services provided.

(ii) Private education (£30 million)

Schools and other educational establishments are regarded as providing a composite service to consumers (see page 97). The part of expenditure included in this item should, in principle, cover (a) the salaries and wages of teachers and other employees of private schools and colleges (*less* any endowments or grants by public authorities towards these items), (b) the profits earned by the owners of the schools and (c) the fees paid for tuition in special subjects such as music, dancing, secretarial subjects, etc. It should exclude expenditure on food and housing. In practice there is very little collated information about the establishments concerned. Comparable payments to universities are not included here (see Item xiii on page 137).

For 1948 an estimate was made of the cost in tuition fees of private education up to the age of 18 by estimating the numbers of boys and girls receiving private education in the three main age groups (5-7, 8-13, 14-18) and making assumptions about the average fees (excluding boarding fees) paid, using the information available either in current school agency publications or in *Whitaker's Almanack*. To the figure obtained in this way an addition was made for establishments, or items, not covered and a deduction

(¹) Cmd. 6810.

for that part of the fees paid which was estimated to have been included in expenditure on food and housing. The basic calculation has not yet been repeated but allowances have been made for the increases in fees estimated to have occurred since 1948.

(iii) *Hotel and restaurant services* (£150 million)

Consumers' expenditure on the goods and services provided by hotels and all catering establishments is distributed between three categories of expenditure. The cost to the establishment of the food served is included in expenditure on food; consumers' expenditure on alcoholic drink served in hotels, restaurants, etc. is included in the item "alcoholic drink"; the remainder of the receipts of these establishments is included in this item of "other services". This remainder amounts, in practice, to the gross profits of the catering trade *less* the estimated profits of licensed premises from selling drink, *plus* expenditure by all catering establishments on wages and salaries and goods and services other than food and drink.

Except for a rough estimate of gross profits derived from Inland Revenue statistics and the figures of mid-year employment in the hotel and catering industry, there is little information to draw upon. In building up the estimate, assumptions are made about the average wage paid, the expenditure on miscellaneous goods and services and the proportion of the whole item paid for out of personal income. The final estimate is therefore subject to a wide margin of error.

(iv) *Laundries* (£65 million)

Consumers' expenditure on laundry services was estimated for pre-war years by the National Institute of Economic and Social Research on the basis of employment and output figures supplied by the Institution of British Launderers. From 1942 to 1945 figures of annual civilian turnover in terms of dry weight were supplied by the Board of Trade. A crude price index was constructed from material published in the statutory orders relating to maximum charges issued from time to time.

In 1948 and 1949 two inquiries dealing with expenditure on laundries were undertaken by the Social Survey. The results of these surveys agreed closely with each other and with the most recent material obtained from the Board of Trade. Since 1948 the series has been brought up-to-date by using the figures of employment in the laundry and dry cleaning industry as an index of quantity and the component for laundry services in the Interim Index of Retail Prices as an index of price. A further check will be made from a sample inquiry into expenditure on laundries, dry cleaning and repair work conducted by the Social Survey in 1955.

(v) *Dry cleaning, dyeing, etc.* (£20 million)

As in the case of laundry expenditure the starting point for this item was the estimate for 1938 made by the National Institute of Economic and Social Research. Figures for 1942 to 1945 were provided by the Board of Trade from returns made by the dyeing and cleaning industry.

Expenditure on dyeing and cleaning was covered by the sample inquiries carried out in 1948 and 1949 and referred to under laundry expenditure. The two surveys yielded rather different results which suggested that there might be a marked seasonality in expenditure on this item. In practice the higher

of the two results obtained was taken to represent expenditure in 1948. Since 1948 the series has been brought up-to-date by using the figures of employment in the laundry and dry cleaning industry as an index of quantity and the component for dyeing and cleaning services in the Interim Index of Retail Prices as an index of price. The results will be corrected in the light of the results of the fresh sample inquiry referred to on page 134.

(vi) *Miscellaneous repair services*: repairs to furniture, clothing, footwear, watches, etc., and dealers' margins on the transfer of ownership of second-hand goods other than vehicles (£55 million).

The major items in this category are dealers' margins on the transfer of second-hand furniture and footwear repairs.

Pre-war sales of second-hand furniture were very roughly estimated; the method of measuring the enormous growth of this item during the war has already been described under item 6 above. Changes in the level of sales over the period 1947-49 were again only very roughly estimated, but a direct estimate of sales of second-hand furniture was made for 1950 using the results of sample surveys. In view of the slender basis of the earlier estimates, the agreement between this result and the figures for earlier years was fairly good.

A war-time estimate for footwear repairs was based partly on information on mending services provided by a sample survey and partly on figures for employment on footwear repair work. This estimate was carried back for earlier years and forward to 1950 by using the movements shown by the retail sales figures for this category. A direct estimate for 1950 from a sample survey agreed with the 1950 figures obtained by this method.

For the remaining items—sales of second-hand clothing, jewellery, cycles, etc., repairs and alterations to clothing, repairs to household goods, watches, etc.—the figures are less reliable. Direct estimates were attempted during the war, using as the main source the survey results referred to above. Changes from year to year for the various items could only be guessed but another direct estimate for 1950, again using sample survey material, gave a total figure for this category fairly close to that obtained by projecting the earlier estimates forward.

The estimates for this item at 1948 prices must be regarded as particularly dubious as the only reliable price information relates to footwear repairs.

It is hoped to improve the whole series from the results of the 1953-54 household expenditure inquiry, and from those of the sample inquiry referred to on page 134.

(vii) *Hire of domestic equipment* (£10 million)

An estimate of expenditure on the hire of heating and cooking appliances was made by the National Institute of Economic and Social Research for 1938. Since the nationalisation of the gas and electricity industries separate figures have been available in their annual reports for the revenue received for these items. It has been assumed that the ratio of personal to total expenditure on this item is the same as the ratio of domestic consumers to the total number of consumers. Expenditure at constant prices is calculated from the trend of prices of gas cookers.

(viii) *Miscellaneous household services*: removals, storage, chimney sweeps, window cleaners, plumbers, etc. (£20 million).

No precise estimates can be made of expenditure on these items, either at current or at 1948 prices. A rough idea of the order of magnitude of expenditure on the item as a whole has been obtained from the results of various sample surveys.

(ix) *Hairdressing, etc.* (£50 million)

For this item the major source of information was a sample inquiry undertaken by the Social Survey in 1949. In addition to hairdressing, items such as manicure and beauty treatment were also covered and for convenience these items have been included with hairdressing. A calculation from experimental family budget surveys in 1951 yielded a similar result.

It is thought that expenditure at constant prices on this item is fairly stable over time and likely to be evenly spread throughout the year. The series for expenditure at current prices has been calculated by applying the hairdressing component of the Interim Index of Retail Prices.

(x) *Undertaking* (£20 million)

Consumers' expenditure on this item is estimated by multiplying the number of deaths occurring in any period by an assumed average cost of a funeral. In his estimates of the cost of national insurance⁽¹⁾ Sir William Beveridge used a figure of £20 for this item and this figure was taken to apply to 1940; £18 has been taken as the corresponding figure for 1938 and prices have been assumed to increase gradually.

(xi) *Betting* (£70 million)

Consumers' expenditure on betting is the total cost, to persons taking part, of all forms of gambling activity. It is thus measured by the amount staked *less* the part returned in the form of winnings, i.e. the net loss incurred. This net loss is in turn equivalent to the net income of persons engaged either wholly or part-time in the industry *plus* the amount taken by the government in the form of betting duties which is about £30 million a year. The item excludes, for example, raffles organised for charity.

The main forms of gambling are betting on horse-racing, dog-racing and football pools. The other forms such as lotteries, gaming, amusement arcades, etc., are of minor importance.

Until the *Report of the Royal Commission on Betting, Lotteries and Gaming* (1949-51)⁽²⁾ became available there was an almost total lack of reliable statistical information on the subject of betting. The size of the industry was unknown so that it was impossible to make reasonable estimates from the supply side. Except in one or two cases nothing reliable was known from the consumers' side. The exceptions were football pools on which the Post Office can estimate the amounts spent by analysing postal orders, and betting through totalisators. Betting on football pools and on totalisators at dog-racing tracks has been subject to Pool Betting Duty since 1948.

⁽¹⁾ *Social Insurance and Allied Services*. Report by Sir William Beveridge (Cmd. 6404) paragraph 159.

⁽²⁾ Cmd. 8190.

One organisation which has attempted to build up a picture of the growth in the various forms of gambling is the Churches' Committee on Gambling. From time to time this organisation has issued its estimates of the total turnover. The statistical evidence on which they are based is scanty and they are bound to have a very wide margin of error. Nevertheless, they are a useful guide to the trend in periods for which no other estimates covering the whole field are available.

With the setting up of the Royal Commission, a thorough investigation took place. A great deal of evidence was collected and carefully sifted and a sample enquiry was undertaken by the Social Survey⁽¹⁾. As a result, estimates corresponding to the definition of consumers' expenditure were built up covering the years 1938, 1941 and 1946 to 1950. These estimates have been accepted as they stand. In the absence of such complete information since 1950, they have been carried forward by using the Post Office statistics relating to pool postal orders, and the amounts of betting tax collected, as indicators.

Expenditure at 1948 prices has been estimated very roughly by assuming that the only variant has been the rate of tax charged. The tax collected in 1948 was expressed as a percentage of expenditure excluding tax, and this percentage is applied to the total expenditure excluding tax in other years in order to obtain the tax chargeable at 1948 rates.

(xii) *Fees paid to local authorities* (£35 million)

This item consists of payments made by persons to local authorities for services connected with items such as education (but not school meals), public libraries, baths, parks and hospitals (before the introduction of the National Health Service). Receipts for these items are given separately in *Local Government Financial Statistics*. The estimate is necessarily rough as an assumption has to be made in each case about the proportion of receipts attributable to personal expenditure.

The estimates have been revalued at 1948 prices by using a general index of wage rates as deflator.

(xiii) *Wages and salaries, etc. of employees of non-profit-making institutions* (£65 million)

The institutions covered are universities, voluntary hospitals, churches, charitable institutions, trade unions, social clubs, etc. This item appears on both sides of the personal income and expenditure account. In a few cases, e.g. trade unions and universities, fairly detailed accounts are available but the figure for the total has had to be estimated from PAYE statistics.

(xiv) *Other miscellaneous services*: legal fees and stamp duties on leases, mortgages, transfers of financial assets, etc. (but not fees and stamp duties incurred in the transfer of ownership of land and buildings⁽²⁾), bank charges, interest on pawnbrokers' loans and stamp duties on cheques; services of photographers, auctioneers, etc., transport of luggage, cloakroom fees, library subscriptions (£20 million).

(1) Referred to in Appendix II of the Report of the Royal Commission.

(2) These are treated as fixed capital formation. See page 283.

An estimate of consumers' expenditure on stamp duties is made by extracting the appropriate items from the figures published annually in the *Finance Accounts* and making assumptions about the ratio of personal to business expenditure in each case.

There is very little information relating to the rest of the items listed above and the amounts included are guesses.

19. Income in kind not included elsewhere

The estimated value of food and clothing issued to the Forces and auxiliary services, and of food supplied to merchant seamen and fishermen.

The value of the income in kind of the Forces is estimated by the Service departments by analysing expenditure under different Votes. The value of the food supplied to merchant seamen and fishermen is estimated very roughly on the basis of employment in the merchant service and the fishing industry.

Expenditure at constant prices is obtained by using as deflator the price index for household expenditure on food.

20. Expenditure by foreign tourists, etc. in the United Kingdom

By definition, estimates of consumers' expenditure should exclude all purchases out of foreign income. Since it is impossible to make a separate deduction for each category of expenditure, a single negative adjustment is made in this item for expenditure by foreign visitors, whether tourists or business, and by the Armed Forces and employees of foreign governments. The amount of the adjustment for "tourism" is given periodically in the balance of payments white papers. An additional amount representing expenditure by the United States Air Force in this country is provided by the Treasury.

A special price index for this item has been constructed by making assumptions about the kinds of goods and services purchased.

21. Consumers' expenditure abroad

This is a further adjustment needed to complete the estimates of expenditure out of United Kingdom income. Expenditure abroad by British tourists, members of the Forces and government employees (but not expenditure on business expense accounts) must be added to the estimates of consumers' expenditure on the items listed above. Expenditure by tourists is estimated by the Treasury for the balance of payments statistics. For the remainder of the item only a very crude estimate can be made, as assumptions are required about the proportions of incomes paid abroad which are actually spent abroad. In view of the lack of information for this item the figures should be regarded as orders of magnitude rather than close estimates. It is believed, however, that the movement from year to year is more reliable.

Retail price indices are available for most of the countries visited by tourists and a rough index has been constructed, weighted by the number of visitors to each country and adjusted for changes in exchange rates.

RELIABILITY OF THE ESTIMATES

An attempt to assess the margins of error attaching to the estimates of the various items of consumers' expenditure, at current and constant prices, is made in the table on pages 140-141. This should be read in the light of the general discussion on page 33 of the significance of these margins of error.

One special element of uncertainty arises in the estimates of consumers' expenditure. In nearly every item, some more or less conjectural assumptions must be made about the appropriate allowance for expenditure by businesses and public authorities. If this element of uncertainty, which is quite independent of the reliability of the basic data, were taken into account, almost every item would necessarily be graded B or C. It is felt that more interest may attach to an assessment of the reliability of the estimates ignoring this special element. Hence the gradings have been allotted on the assumption that the allowances for expenditure of businesses and public authorities are in fact correct.

For most items, the estimates for the latest year shown in the Blue Book are as reliable as those for earlier years. The estimates for 1948-1951 of expenditure on most goods other than food, drink and tobacco, however, are closely linked with the "benchmark" data derived from the censuses of production and distribution and are therefore somewhat better than the estimates for earlier or later years.

In general, the estimates of year to year changes are more reliable than might appear from the gradings allotted in the table to the absolute values of the estimates (see page 34). An important exception is the estimates for "private motoring and cycling". In this case, the proportion of business expenditure is not only large and uncertain, but the changes in the proportion from year to year may be both substantial and incorrectly estimated.

Because the basic data for nearly half of total consumers' expenditure are data relating to quantities, there is no reason why the estimate of total expenditure at constant market prices should be less reliable than that at current market prices although the former cannot take full account of changes in quality. The estimates of expenditure at factor cost, however, as pointed out on page 104, introduce a further element of arbitrary calculation and are in general inferior to the estimates at market prices.

Notwithstanding the large proportion of items graded B or C, the estimates of total consumers' expenditure, at current and constant prices, whether market prices or factor costs, are graded A. The superiority of the estimates of total expenditure is due in part to the probability that errors in the components will to some extent offset each other, but in part to the fact that the estimate of total consumers' expenditure, being so large a proportion of total national product, is controlled by, and helps to control, the estimates built up from data of incomes.

Consumers' expenditure: reliability grading

Margins of error:

A \pm less than 3 per cent. B \pm 3 per cent. to 10 per cent. C \pm more than 10 per cent

Expenditure group	Grading		Estimated expenditure at current market prices in 1954 £ million
	Estimated at current market prices	Estimated at 1948 market prices	
1. Food			
Household expenditure:			
Bread and cereals	B	B	498
Meat and bacon	B	C	851
Fish	B	B	98
Oils and fats	B	B	206
Sugar preserves and confectionery	B	B	388
Dairy products	B	B	512
Fruit	C	C	230
Potatoes and vegetables	C	C	334
Beverages	B	B	172
Other manufactured food	B	B	114
Total	B	B	3,403
Other personal expenditure	B	B	407
Total food	B	B	3,810
2. Alcoholic drink			
Beer	A	A	517
Wines, spirits, etc.	A	A	325
Total alcoholic drink	A	A	842
3. Tobacco			
Cigarettes	A	A	742
Pipe tobacco, cigars and snuff	A	A	113
Total tobacco	A	A	855
4. Housing	B	B	1,056
5. Fuel and light			
Coal	A	A	208
Electricity	A	A	121
Gas	A	A	110
Other	C	C	47
Total fuel and light	A	A	486
6. Durable household goods			
Furniture and furnishings	C	C	424
Hardware, radio and electrical goods	C	C	354
Total durable household goods	B	C	778
7. Other household goods	B	B	158
8. Clothing			
Footwear	B	B	202
Other			
Men's and boys' wear	B	B	314
Women's, girls' and infants' wear	B	B	613
Total clothing	B	B	1,129

Expenditure group	Grading		Estimated expenditure at current market prices in 1954 £ million
	Estimated at current market prices	Estimated at 1948 market prices	
9. Recreational goods			
Books	B	B	40
Newspapers	A	B	98
Magazines	B	B	41
Other	C	C	118
Total recreational goods	B	B	297
10. Chemists' goods	C	C	161
11. Other goods	C	C	152
12. Private motoring and cycling	C	C	438
13. Travel			
Railway	A	B	109
Other	B	B	330
Total travel	B	B	439
14. Communication services			
Postal	A	A	46
Telephone and telegraph	A	A	35
Total communication services	A	A	81
15. Entertainments			
Cinema	A	B	112
Other	C	C	75
Total entertainments	B	B	187
16. Domestic service	C	C	100
17. Insurance	A	C	121
18. Other services	C	C	640
19. Income in kind not included elsewhere	B	B	78
20. Expenditure by foreign tourists in the United Kingdom	B	C	-123
Consumers' expenditure in the United Kingdom	A	A	11,685
21. Consumers' expenditure abroad	B	C	169
Total	A	A	11,854

Chapter VI

The Company Sector

1. GENERAL DESCRIPTION

The company sector comprises privately controlled corporate enterprises organised for profit resident in the United Kingdom. Approximately one half of the national income originates in this sector. The principal constituents are about 11,500 registered public companies (with paid-up capital of over £4,000 million), over a quarter of a million registered private companies (paid-up capital about £2,400 million)⁽¹⁾ and over 1,750 co-operative societies (wholesale, retail and productive) with capital of £500 million.

The prominent part which the distinction between companies and unincorporated private businesses plays in the presentation of national income statistics arises largely from the separation which has long been made in the statistics compiled by the Inland Revenue. Nevertheless, the distinction is valuable for economic analysis. Although the company sector includes a great number of small enterprises, distinguishable only by legal form from sole traders and partnerships, yet the main weight in the company sector is carried by large enterprises with substantial capital, a high degree of permanence and a fairly elaborate internal organisation. Thus the 4,000 largest companies account for about two-thirds of total company profits.

The term "companies" is, however used for convenience rather than because it conveys any precise legal significance. Essentially, in this system of statistics, it implies, firstly, corporate status—a legal personality distinct from the persons who are its members, thus distinguishing companies from sole traders and partnerships⁽²⁾; secondly, private control as distinct from control by public authorities; and thirdly, operations for gain. Thus the sector excludes the following bodies, some of which are in fact incorporated under the Companies Act, as Statutory Companies by Royal Charter, or under the Industrial and Provident Societies Act:

- a. the public corporations—mainly the bodies managing the nationalised industries;
- b. the trading enterprises of the Central Government and local authorities;

(1) Private companies are distinguished from other companies in that they restrict the rights of members to transfer shares, limit their membership to between 2 and 50 (inclusive) and do not invite public subscription to their shares or debentures (they cannot therefore have a Stock Exchange quotation). Moreover most private companies are not obliged, as are most other companies, to lodge their annual accounts and balance sheets with the Registrar of Companies for public inspection (although about a quarter of the private companies are "non-exempt" and must lodge accounts). No distinction can be made in available statistics of profits etc. between public and private companies.

(2) Corporate status normally carries with it limited liability. But there are a few unlimited companies, and limited liability may be granted to certain partners in unincorporated partnerships.

c. private non-profit-making bodies serving persons: charities, clubs and other societies, trade unions, friendly societies (i.e. mutual insurance societies), churches, universities and independent schools. Co-operative societies and building societies are treated as companies;

d. corporate bodies treated as part of the system of public authorities but not as trading enterprises (e.g. the Regional Hospital Boards, which are bodies corporate under the National Health Service Act, 1946, and the Honourable Artillery Company, incorporated by Letters Patent);

e. the life funds of life assurance companies and the funds of super-annuation schemes, which are treated as part of the personal sector;

f. for reasons of statistical convenience agricultural companies are excluded (they are included with individual farmers and partnerships in the personal sector, see page 93).

It must be observed that as a result of nationalisation and denationalisation, of the transfer of particular activities between government and private hands, of the transfer of the residence of companies between this country and abroad, and of changes in the relative importance of corporate and unincorporated business, the area covered by the company sector can change substantially over time. The total of company profits may fall on account of nationalisation or may rise because a nationalised industry has been returned to private ownership. The sector accounts for companies thus represent the transactions of a particular kind of trading body, not the transactions in a particular area of economic activity⁽¹⁾. Thus, the following table shows on line 1 the gross trading profits of all companies (as in Blue Book, 1955, Table 29) and on line 2 the gross trading profits of those companies which were not nationalised at any time during the period (Table 30). The same considerations apply, of course, to the trend of interest and dividend payments, for which figures on both bases are given in Tables 29 and 30.

Gross trading profits of companies

£ million

	1938	1946	1947	1948	1949	1950	1951	1952	1953	1954
1. All companies .	690	1,475	1,689	1,790	1,839	2,123	2,472	2,176	2,323	2,560
2. Excluding companies nationalised at any time in period .	570	1,334	1,570	1,734	1,790	2,074	2,465	2,176	2,321	2,537

Source: Blue Book, 1955, Tables 29 and 30

For some purposes, the more significant trend is that shown by the sum of profits of companies and trading surpluses of public corporations, as given in the corporate appropriation account (Table 3 of the Blue Book).

Financial concerns

A problem which has always caused some difficulty in national income statistics is the proper treatment of concerns whose income is derived from transactions in financial assets (i.e. lending and borrowing)

⁽¹⁾ See page 158 for the treatment of iron and steel and road haulage.

rather than from the provision of goods and services. This group comprises banks, discount houses, finance houses, issuing houses, hire purchase finance companies, investment trusts, insurance companies and building societies. Broadly, it is Order XXI in the *Standard Industrial Classification* (which also includes property companies). The problem is to measure this group's contribution to the gross domestic product consistently with that of other industries.

The contribution to gross domestic product of an industrial enterprise is measured by the excess of receipts from the sale of goods and services over current purchases of goods and services from other enterprises (ignoring capital gains due to stock appreciation)—the enterprise's "net output". The same definition must be applied to financial concerns to reach an all-industry total which can reasonably be defined as equal to the total output of goods and services. But the application of this definition to financial concerns produces a paradoxical result. For example, the contribution to gross domestic product of a bank is the excess of bank charges and commissions received from depositors (the only receipt by banks directly related to the services they supply) over the current expenses for paper, furniture, rent, etc. (their only purchases of goods and services from other enterprises). This "net output" is naturally small. Further, the element of "profit"—obtained as for other industries by deducting wages, salaries, etc., from "net output"—is usually negative; wages, salaries and purchases of goods and services from other enterprises normally exceed receipts from bank charges and commissions.

The reason for this peculiarity is that banks derive their profits by lending money at a higher rate of interest than they pay on money deposited with them. This profit in a sense "subsidises" the provision by banks of those services for which inadequate payment is received in the form of bank charges and commissions. The same applies to investment trusts, hire purchase companies, to a limited extent to insurance companies (but for life assurance see page 146), to building societies and other financial concerns. Property companies, however, derive their profits by charging the full price for their service (the hiring of real estate), and can be treated in the same way as industrial companies.

A possible solution is to treat the net receipts of interest by financial concerns as being in effect a payment (in addition to bank charges, etc.) for general financial services rendered, thus increasing the profit incomes of banks to a figure resembling that in their published accounts. At the same time it would be necessary to impute to the rest of the economy a charge for these financial services. In so far as these purchases are made by businesses they would be treated like raw materials or any other "intermediate" goods: the imputed purchase of financial services would be regarded as an additional cost of production, and profit incomes outside the "finance" industry would be reduced by the same amount as profits within the "finance" industry were increased. If all financial services were rendered to businesses, the problem would be reduced to that of determining whether the net interest income of financial concerns should be regarded as generated in the "finance industry" or outside it.

Some financial services, however, are rendered to persons, as customers of banks, for example; these imputed services to persons would therefore

have to be treated as "final" goods—as a form of consumers' expenditure on goods and services. To this extent, the imputation would involve an increase in total final expenditure and national income.

To carry through this kind of solution would require the allocation of the charge for "financial services" to specific industries and sectors. There is clearly no objective basis for determining such an allocation⁽¹⁾. It is felt that a purely hypothetical distribution of these imputed charges, currently amounting to nearly £400 million a year, would be more misleading than the paradox of financial concerns appearing to make a steady annual loss.

Table 14 of Blue Book, 1955, showing the distribution of gross domestic product by industry of origin, sets out the position in the industry "Insurance, banking and finance (including real estate)" for 1954 as follows:

	£ million
1. Income from employment	322
2. Gross profits and other income	369
3. Rent ⁽²⁾	168
4. Adjustment for net interest	—388
5. Total contribution to gross domestic product	471

Lines 2 and 3 together constitute the profits as normally understood (except that depreciation is not treated as a current cost and that certain gains and losses on investments, treated as trading profits or losses for tax purposes, are not brought into account). Line 4 represents the deduction required so that the profits of the financial concerns can be added to those of other industries to make up the contribution of profits to national income. In the alternative system of presentation described above, under which a charge for "financial services" would be imputed to the customers of financial concerns, line 2 unadjusted would remain as the profits of the finance industry; line 4 would not appear; part of the £388 million of "financial services" would be attributed to business users and be deducted in some arbitrary proportions from the profits of all other industries; the total gross domestic product would be greater than now shown by the part of the £388 million attributed to final consumers' purchases of "financial services".

In Table 31, showing trading profits of companies by industry, the profits (excluding rent) of "insurance, banking and finance" are shown as normally understood, i.e. a figure comparable with the positive profit in line 2 of the table in the previous paragraph; (in fact a smaller figure appears because Table 31 relates to companies only and excludes the substantial number of unincorporated businesses, e.g. stockbrokers, included in the table in the previous paragraph). The adjustment for net interest is included in Table 31, along with certain other adjustments, in the item "adjustments".

⁽¹⁾ The U.N. *System of National Accounts* and the O.E.E.C. *Standardised System* recommend an imputation of financial charges on these lines and suggest that the charges be distributed in proportion to the bank deposits held by each industry or sector. This is in fact done in the United States national accounts. No information is available in the United Kingdom about the distribution of bank deposits nor is it felt that such a basis for imputation is necessarily realistic.

⁽²⁾ In this item is included all rent paid by tenants of trading property (but not the imputed rents on owner-occupied properties), even though the recipient of the rent is not wholly engaged in the "real estate" industry (see page 30).

Life assurance companies (including industrial assurance and collecting societies), are treated differently from the rest of the "insurance, banking and finance" industry; their business is almost entirely with persons and the transactions of the life funds are regarded as collective transactions of the personal sector (page 56). Thus it is reasonable to impute to consumers' expenditure the whole charge for "life assurance services", i.e. management expenses *plus* shareholders' profit; the profits of the life funds are therefore excluded from the gross trading profits of companies.

If full information about the transactions of the "insurance, banking and finance" industry with each other sector were available, it would undoubtedly be valuable for many purposes to treat this industry as a separate sector of the economy. In many respects, the consolidation of that industry's transactions with those of all other industries conceals changes in profits and savings which could usefully be displayed. A very rough estimate of the consolidated appropriation account of companies in the "insurance, banking and finance" industry is shown in a note on page 65 of the Blue Book, 1955.

2. THE BLUE BOOK TABLES⁽¹⁾

THE APPROPRIATION ACCOUNT OF COMPANIES

The consolidated appropriation account (alternatively, but less appropriately, the income and expenditure account) of companies is presented as follows:

Appropriation account of companies, 1954

£ million

<i>Receipts</i>		<i>Payments</i>	
Gross trading profits of companies operating in the United Kingdom ⁽²⁾	2,560	Dividends and interest:	
Income earned abroad:		Payments:	
Trading profits of British companies operating abroad ⁽³⁾	279	Debenture interest	50
Balance of payments adjustment	59	Dividends on preference shares . .	103
Non-trading income	466	Dividends on ordinary shares . .	597
		Co-operative society dividends and interest	46
		Interest on building society shares and deposits	54
		Other interest paid by banks etc.	38
		Total payments of dividends and interest	888
		Additions to dividend reserves . .	69
		Taxes and remittances paid abroad .	186
		United Kingdom taxes on income:	
		Payments	874
		Additions to tax reserves	104
		Saving before providing for depreciation and stock appreciation:	
		Undistributed income of British companies after taxation	1,184
		Balance of payments adjustment .	59
Total	3,364	Total	3,364

Source: Blue Book, 1955, Table 29

⁽¹⁾ References are to Blue Book 1955.

⁽²⁾ Before providing for depreciation and stock appreciation.

⁽³⁾ After deducting depreciation allowances but before providing for stock appreciation.

The significance of the separate items, and the sources from which the figures are obtained, are described in detail later, the income items on pages 152-163 and the payments items on pages 163-166. Only a general description of the tables is given here.

Receipts of companies

Broadly speaking, the appropriation account of companies corresponds with the profit and loss accounts and appropriation accounts presented by companies to their shareholders, but there are some substantial modifications to normal accounting practice both in the content of the items (e.g. the omission of any provision for depreciation) and in the form of presentation.

Gross trading profits

The opening entry in the account, and the chief source of company income, is the *gross trading profit* of all companies operating in the United Kingdom. (For definition see page 157.) This figure, representing earnings from production and trade in the United Kingdom, is regarded as the share of these companies in the gross national product (their factor income) and appears as one of the constituents of the national income (e.g. in Table 1 of the Blue Book). These profits may be regarded as the total surpluses carried from a series of operating accounts for each company; such an operating account would contain under "payments" the current purchases of goods and services from abroad or from all other enterprises in the United Kingdom, and of labour services of the firms' own employees; under "receipts" it would include the total sales of goods and services *plus* increases in the value of stocks and work in progress. The trading profits thus defined have three important features:

- a. No provision is made for depreciation as a current cost before reckoning profits.
- b. All interest payments (on debenture stock or other loans) are treated as an allocation of profit, not as an operating expense to be deducted before the trading profit is struck. (See page 157.)
- c. Profits include the imputed annual value of owner-occupied land and buildings. (See page 333.)

For national income purposes, trading profits should—were more information available—be differently defined. A charge for depreciation, representing as nearly as possible the use of fixed assets during the year at the prices of the year, would be included in current operating costs before striking the profit balance, and stock appreciation or depreciation—that part of accounting profits due to the effect of price changes on stock values—would be excluded from profit.

Trading profits earned abroad

To the gross profits earned from production and trade in the United Kingdom must next be added *trading profits earned from operations abroad* by companies resident in the United Kingdom. The definition of a resident company is explained on page 157. Broadly, companies operating abroad are regarded for national income purposes as having two constituents: the overseas operating unit, and the head office in the United Kingdom which is regarded as drawing income from abroad equal to the trading profit from

overseas operations⁽¹⁾. The item is entered before deduction of any taxes on these profits paid to overseas governments; overseas profits like domestic profits, are entered before deducting taxes. A "*balance of payments adjustment*" is added, which is required by the nature of the existing data to secure consistency with the balance of payments statistics (see page 161). The whole of the trading profits earned abroad is regarded, like other property income, as a transfer; it does not contribute to the gross domestic product, but enters the gross national product and the national income (e.g. in Table 1) as part of the item "Net income from abroad".

Non-trading income

The third main item of receipts is *non-trading income*, consisting of receipts of interest, dividends and rents (but not the imputed income from rent of property owned and occupied by the companies). Since the table is a consolidated account for all companies, income of this kind received from other United Kingdom resident companies is left out, and the item is confined to property income received from other sectors of the British economy—public authorities, persons and public corporations—and income from *investments* (as distinct from trading operations) overseas. Thus the figures do not include the dividends paid by resident subsidiaries operating at home or abroad to resident parent companies, nor any income on investments in other United Kingdom companies; but they do include dividends paid by non-resident subsidiaries to parent companies resident in the United Kingdom.

Among the main constituents of non-trading income of companies (which include banks and other financial concerns) are public debt interest received by companies, interest on bank advances to the personal sector and public corporations, rents received by property companies letting land or buildings, and mortgage interest received from persons by building societies. Most of the income, as normally understood, of insurance, banking and finance (the excess of interest and dividends received over interest, etc. payments made, which, as explained above, is not included in the trading profits of that industry) is entered here, except that interest and dividends received from other companies is excluded. The whole of the non-trading income of companies is regarded as transfer income and is excluded as such from the calculation of gross domestic product and national income; it is essentially income generated in other sectors and redistributed to companies.

Out of the total receipts described above, must be met three categories of current outgoings—payments to loan-holders and shareholders, a smaller item of payments of foreign taxes and remittances abroad, and payments of United Kingdom tax.

Dividends and interest

Payments of interest and dividends are divided between debenture interest, preference dividends and ordinary dividends. Interest and dividends paid by co-operative societies⁽²⁾, and interest on building society shares and deposits

⁽¹⁾ The profits earned abroad are entered *after* deduction of provision for depreciation for consistency with the statistics of the balance of payments white papers.

⁽²⁾ Co-operative dividends on purchases might alternatively be regarded as rebates on the prices paid by consumers, as they are for tax purposes (although no allocation by product would be possible and such a treatment would complicate the construction of consumer price indices); on this alternative treatment, the dividends paid would be regarded as a current cost and deducted before striking the gross trading profit.

are shown separately. There is also a residual item of miscellaneous interest payments, nearly all bank deposit interest. As on the income side, interest and dividend payments by one company to another are excluded.

All interest and dividend payments are shown before deduction of income tax, although in fact companies normally deduct income tax at the standard rate before payment. This tax, however, must be regarded as falling on the recipients of interest and dividends and not on the companies paying interest and dividends. In fact, a company is assessed to income tax on the whole of its taxable income, whether distributed or not. On payment of interest and dividends, the company is entitled to deduct and to retain the amount of tax appropriate to the interest and dividends paid. The recipient of interest and dividends is assessed to tax by reference to the whole of his income (interest and dividends being calculated before deduction of tax), and allowance is made for the tax already deducted on payment by the company. The deduction of tax at source, wherever possible, before income reaches its ultimate recipient, has been described as the keystone of the United Kingdom income tax collection system. But one result of this system is that the precise amount of tax falling on the final recipient of the income subject to tax can rarely be obtained directly from the records.

Payments of ordinary dividends, other than interim dividends (and to a less extent of dividends on preference shares), are in most cases distributions out of income earned in a previous year. Hence companies may be regarded as making an appropriation out of the year's profits for distributions which will not in fact be made until the following year. Since for some purposes the accrual of dividends is more significant than the actual payments in the year, allowance is made for it by adding an item "Addition to dividend reserves," representing any estimated excess of accruals of dividends over actual payments. Thus the accrual is the appropriate figure to relate to profits earned in the year, and in making an estimate of saving. But the figure of payments is required to yield the appropriate figure of receipts by other sectors.

Taxes and remittances paid abroad

These include remittances abroad of profits and dividends by foreign companies operating in the United Kingdom (and are part of income paid abroad in reckoning the net income from abroad in the national income); and payments of taxes by United Kingdom companies to governments abroad, normally in respect of operations overseas. The need for the latter item follows from the recording of profits, including profits from operations abroad, before deduction of taxes paid to either the United Kingdom or overseas governments.

United Kingdom taxes on income

This covers income tax, profits tax, excess profits levy (introduced as from the beginning of 1952 and repealed as from the end of 1953) and excess profits tax (repealed in 1946 and yielding little after 1949). The amount of the last three charged in respect of a particular year is calculated by reference to profits earned in that year.

The liability to income tax for a particular year, however, is normally reckoned on the profits arising in an earlier year (the liability at the start and at the end of a business being based on profits arising in the current

period); normally, the profits shown by companies' accounts for their accounting years ending, for example, within the twelve months up to 5th April, 1952 (which, as shown on page 153, can be treated on average as profits of the calendar year 1951), formed the basis of the assessments for the year 1952-53, the tax charged thereby becoming due and payable in January 1953. At the end of 1951, the tax thus due in 1953 had not been assessed and indeed a company would never be liable for any tax at all for 1952-53 unless it continued trading into that year; nevertheless it is generally held to be prudent accounting for a company to guard against a reversal of fortune (when it might have to pay a large amount of tax in a year of low profits) by reserving enough to cover both the income tax chargeable in respect of the current year and also income tax chargeable in respect of the assessment for the later year that will normally be calculated on the amount of the current year's profit. Since the tax ultimately to be charged on company profits in the latest year may be affected by changes in tax rates made in future budgets, it cannot be estimated when the accounts are made up. Hence, following the companies' own practice, the table shows as the total charge for taxation in each year the tax at current rates on current profits *plus* any change in previous reserves due to any Budget changes in the current year.

This total charge is split between the *tax payments* and the *additions to tax reserves* in each year. The additions to income tax reserves for 1951, in the example above, would comprise (a) the difference between tax at 1951-52 rates on 1951 profits and the tax paid in 1951, and (b) because the 1951-52 Budget increased the rate of tax from 9s. to 9s. 6d., an addition (of 6d. on the 1950 profits) to the reserve made for 1950 at the old rate for tax expected to be payable in 1952. For profits tax the addition to reserves corresponds to (a) only; as the tax is assessed on the current year's profit and the final rate of tax is known when the reserve is first made, no adjustment of previous reserves is needed.

Both the tax payments and additions to reserves are net amounts after crediting the income tax that the companies pass on to shareholders by deduction from dividends. Payments are reduced by tax at the current rate on dividends paid, and additions to reserves by the difference between tax at the current rate on the dividend reserve at the end of the year and tax at the previous year's rate on the dividend reserve brought forward from that year.

The total tax charge (tax payments *plus* additions to tax reserves), which often varies widely from actual payments because of changes both in the level of profits and in the rates of tax, is for most purposes the appropriate figure to deduct from gross profits for analysis of the trend of profits after tax and of saving.

Saving

The final item of "Saving before providing for depreciation and stock appreciation" is the balance carried to the capital account; it represents the sum of the net acquisition of real or financial assets, the necessary provision for the use of fixed assets and the capital gains (or loss) due to stock appreciation. The "balance of payments adjustment", necessarily included in the figure of saving, is separately stated.

OTHER BLUE BOOK TABLES RELATING TO THE COMPANY SECTOR

Profits by industry

An analysis of gross trading profits of companies operating in the United Kingdom, by industry, is given in Table 31 of the Blue Book, 1955. Net profits are also shown, the figures being the profits after deducting the depreciation allowed for income tax (including initial allowances at varying rates and investment allowances). The resulting figures of net profits are thus closer to taxable profits than the figures of gross trading profits given elsewhere in the Blue Book. Because of the nature of the material from which the figures are compiled, as described below, it is impracticable to give this industrial analysis of profits for the most recent year.

Gross trading profits are defined as in the appropriation account of companies (Table 29). But some of the adjustments required to profits as assessed to tax, and the adjustments to the profits of financial concerns described on page 145, cannot be allocated by industry. Hence a general adjustment item is necessary to bring the total of company profits into line with that in Table 29.

The basis of classification is similar to that used in the industrial analysis of trading profits assessed to income tax under Schedule D in recent annual reports of the Commissioners of Inland Revenue⁽¹⁾. The classification corresponds with the *Standard Industrial Classification*. But the basis of assessment to tax is necessarily the financial unit and not the individual establishment; hence this analysis of profits by industry is not precisely comparable with the Ministry of Labour's analysis of employment by industry, nor with the census of production data, both of which are based on a classification of establishments. For the same reason the profit figures are not precisely comparable, industry by industry, with Blue Book Table 15, showing wages and salaries in individual manufacturing industries on an establishment basis. However, there is no reason to suppose that year to year changes in the profit figures for the different branches of industry, as shown in Table 31, are not comparable with the year to year changes in wages and salaries shown in Tables 14 and 15, or with the year to year changes in fixed capital formation and in stocks shown in Tables 51 and 52. Moreover, it seems likely that profit figures on a financial unit basis for broad industry groups (as in Table 14) are reasonably comparable with those on an establishment basis; hence the figures of gross company profits in Table 31 are used in Table 14 for analysing the contribution of company profits, by broad industry groups, to the gross domestic product (although some error may arise in the allocation of profits between manufacturing industry and distribution).

Capital transactions of companies

Insufficient data are available to make it possible to present a complete capital account for companies. The nucleus of such a capital account is, however, shown, together with similar figures for other sectors, in Table 45 "Financing of investment" (more fully described on page 277). This table gives the following elements in the capital account of companies:

(1) E.g. 98th Report, Tables 32-47.

Certain capital transactions of companies, 1954

£ million

Saving, before providing for depreciation and stock appreciation	1,243	Gross domestic capital formation: Fixed capital formation	709
Capital transfers (net receipts) ⁽¹⁾	24	Value of physical increase in stocks and work in progress	356
less Provision for stock appreciation	-52	less Net borrowing from taxation reserves	-104
		less Net borrowing from interest and dividend reserves	-69
		Net acquisition of financial assets <i>plus</i> net overseas investment	323
Total funds available from savings and capital transfers for gross investment	1,215	Total gross investment	1,215

Source: Blue Book, 1955, Table 45

⁽¹⁾ Mainly receipts of war damage compensation and refunds of excess profits tax.

The final item "net acquisition of financial assets *plus* net overseas investment" is obtained as a residue. It conceals in a single net figure those transactions in financial assets which should be stated separately in a genuine capital account. Thus it includes, among other items, the net result of changes in overseas investment by companies (in fixed assets, stocks, or securities), in investments in British securities, in capital subscribed, in bank debt, in trading debts and credits, and in cash. A consolidated capital account for all companies would indeed show these transactions only in so far as they affect other sectors; inter-company transactions, and in particular transactions between financial concerns and other companies, would cancel out. An adequate capital account for companies would, however, call at least for a division between financial concerns and the rest and would require a fairly extensive analysis of the transactions between these two groups.

A summary analysis of *fixed capital formation* by companies is given in Table 51 along with that of other sectors; figures for changes in stocks and work in progress of companies, dividing stock appreciation from the value of the physical change, are given in Table 52 (together with an estimate of total stocks held by companies).

3. STATISTICAL SOURCES: PROFITS AND OTHER INCOME OF COMPANIES

The main basis of the estimates of company profits is the information collected by the Inland Revenue in the course of assessing companies to income tax. The discussion in the earlier part of this chapter shows that in several respects the gross trading profit differs from the taxable profits, but most of the data required, both for the total of company profits and for its analysis by industry, are derived from Inland Revenue records and estimates.

Two major features of the data used must be borne in mind. Firstly, companies are normally assessed to tax on the basis of their income in their own accounting years; hence the figures shown for a given year represent the sum of a variety of individual accounting years. The same characteristic

applies at other points in the national income estimates (especially to data based on the census of production). Secondly, the process of determining, for tax purposes, the level of profits of an individual company is often lengthy; hence the figures for the latest year shown are highly tentative, and the estimates for a number of recent years may be subject to continuous revision until virtually all assessments reach their final stage. The methods adopted for dealing with these two characteristics of the data will be described first. Most of the description applies to sole traders and partnerships (including the professions) as well as to companies.

Accounting years

Normally, a trader is assessed to income tax for any income tax year on the basis of profits made in his own accounting year ending within the previous income tax year. The income tax year ends on 5th April (as distinct from the financial year used in government accounts, which ends on 31st March). The distribution of profits by companies' accounting dates is approximately as follows:

	<i>Per cent.</i>
Accounting year ending in April-June	10
Accounting year ending in July-September	15
Accounting year ending in October-December	50
Accounting year ending in January-March	25

The average accounting year, weighted by amount of profit, ends about the beginning of December. No attempt is made to adjust for this variation in accounting dates. The profits recorded in the national income statistics as earned in 1953 are, broadly speaking, those assessed for tax for the income tax year 1954-55 (if subject to the normal process of assessment); they cover most of the profits earned in 1953 together with a significant amount of profit earned in 1952 and in 1954, and smaller amounts earned before 1952.

Although the bulk of the assessments made in any one year are on the basis set out in the preceding paragraph, they also include (a) some late assessments in respect of earlier years and (b) some provisional assessments (on new businesses and on businesses ceasing to exist) based on the profits of the current instead of the previous year. "Late" assessments at present account for about 5 per cent. of the total amount assessed for companies (but rather more for unincorporated businesses). No separate figures are available for assessments on a "current year" basis but it is estimated that they may account for some 2-4 per cent. of the amounts assessed for companies and 5-8 per cent. for unincorporated businesses. There is some duplication between these two sets of figures. In the case of a new business, the first year's assessment, although based on the current year's profit, must almost inevitably be delayed until the following year, when that profit is known, and it will thus appear as a "late" assessment. Nevertheless, a small proportion of the profit attributed to, say, 1953 does in fact arise in years earlier than 1952 and some may even arise in early 1955.

Losses

The treatment of losses causes special difficulty in computing total company earnings and in allocating the total to a particular year. Broadly, the

losses made in a particular year of account are not recorded in the assessments covering that year since firms making a loss are not liable to tax and so are not assessed. However, there are three ways in which the owner of a business can obtain relief in respect of business losses:

a. The loss may be carried forward and set against the profits of the same business in a subsequent year. Before the Finance Act, 1952, there was a time limit of six years in which the loss could be relieved; this had the effect that some losses were never relieved because if a firm made a loss in six successive years there was no profit against which the loss of the first year could be set.

b. He may set the loss against his income from any other source chargeable for the year in which the loss was incurred (and, after the Finance Act, 1953, for the following year).

c. Less commonly, if he carries on more than one trade he may set a loss in one trade against a profit in another.

The Inland Revenue obtains statistical reports of losses allowed by the first method and, recently, by the second also. The third kind are included in assessments made. The losses in (a) above allowed in any year of assessment on profits of the preceding year are assumed to be losses of the preceding year but one. Those in (b) above are assumed to be losses of the same year as the assessment.

This method of estimating may, however, lead to error because under (a) some of the losses may have been carried forward more than one year and under (b) the loss may since 1953 be set, not against the assessment for the current year, but against that for the following year. Moreover, losses suffered by firms going steadily downhill, and never enjoying a profit against which to offset the losses, may never be recorded; the estimate of total losses may therefore be too low, and the estimate of aggregate profits too high.

It should be noted that the total amount of losses is quite large (of the order of £100 million a year). The amount will be affected, among other things, by changes in the rules for depreciation allowances such as the introduction or suspension of initial allowances; the depreciation allowed may determine in marginal cases whether a company has made a profit or a loss for tax purposes.

STAGES IN THE ESTIMATION OF PROFITS

This description of the method of assessment of profits shows that even if all assessments to tax could be completed and all the records tabulated during the income tax year, there would be a gap of fifteen months between the end of the calendar year in which the bulk of the profits were earned and the earliest date at which statistics could be compiled. Even in these circumstances, the latest complete statistics available in mid-1955 would relate to 1953.

In fact, when the national income estimates are being prepared (e.g. in mid-1955), the latest year for which figures are available based on complete statistics of assessments is the last calendar year but two (1952); the year before that (1951) is the latest year for which the figures can be regarded as final. For the two last years shown (1953 and 1954), the figures given are derived from estimates covering only a part of the field.

The statistics of trading profits available for each recent year, and the methods used for deriving estimates of total trading profits of companies, are described below. The material available in June 1955, when the Blue Book, 1955, was in preparation, is taken as an example.

The profits earned in 1951 are represented, as closely as possible (as shown on page 153) by the assessments made in 1952-53. When these assessments are made, towards the end of 1952, many of them are provisional and subject to later adjustment. In some cases, the assessment is too low, or may have been missed altogether, but this is corrected, approximately, by the inclusion of assessments made in 1952-53 relating to earlier years (see page 153). In other cases the original assessment is reduced by discharge or repayment. About one-half of these reductions will be made in the first year, i.e. by the end of September 1953, and nearly three-quarters by September 1954. At that date, the adjustments still to be made are taken as being equal to those made in the year ending September 1954, in respect of all years of assessment earlier than 1952-53. The figures so adjusted are taken as final for the 1952-53 assessments although they may, of course, include some cases where, e.g. as a result of disputes being submitted to the Courts, finality is not reached for many years. It is unlikely, however, that the error introduced by the approximations used exceeds 1 per cent. of the total.

For profits earned in 1952 and assessed in 1953-54, the information available in mid-1955 is limited to detailed figures adjusted for the discharges and repayments made in the first year after assessment, i.e. up to September 1954, together with figures showing, in total only, the tax discharged or repaid during the first few months of the following year. From this information, estimates of the full adjustments to be made in the second year after assessment are prepared and are used to obtain provisional figures for the final assessments of 1953-54. These provisional figures will need correction the following year to the extent that the actual discharges and repayments made in the year to September 1955, differ either in total or in their distribution by industry and status, from those estimated.

For the two latest years, profits earned in 1953 and 1954, complete statistics of assessments to tax are not available: the figures have to be estimated by projecting the 1952 profits in accordance with the trend shown in those cases for which figures are available. The method is that used by the Inland Revenue to estimate profits earned in the year just ending in preparing estimates of revenue for inclusion in the Budget. The material on which these estimates are based is as follows:

a. Traders' accounts are received by the Inland Revenue tax districts continuously throughout the year; in all cases where the profit exceeds £2,000 a report showing the current year's profit compared with that for the preceding year is sent to head office as soon as the accounts are received.

b. In all cases where the profit exceeds £5,000 a further report giving similar information is submitted as soon as the accounts have been examined and the liability agreed.

c. In addition to these figures for traders whose accounts have already been submitted, the Inland Revenue in January each year asks traders whose profits are likely to be £10,000 or more to forecast their profits for the current year in advance of the submission of their accounts.

These three types of report are combined (after elimination of any duplication) to arrive at the percentage change in profits for the latest year (1954). For the preceding year (1953) the first two types are the main sources, many of the traders' forecasts having been superseded by actual accounts.

The proportions of total profits of companies covered by these reports in June 1955, when the estimates were made for the Blue Book, 1955, were roughly :

	<i>Per cent.</i>
<i>1953 profits</i>	
Preliminary reports based on accounts	25
Final reports based on accounts	25
Traders' forecasts	10
<i>1954 profits</i>	
Preliminary reports based on accounts	3
Final reports based on accounts	1½
Traders' forecasts	50

In using these sets of figures for the two latest years a number of points must be taken into account :

a. The cases for which accounts have been received, and still more those for which liability has been settled, will relate mainly to traders whose accounting periods end early in the income tax year. They will not therefore reflect any changes in the economic position occurring towards the end of the year. This point is, of course, of much greater importance for the latest year shown than for the previous year, for which the coverage is much greater and more evenly distributed.

b. Traders' forecasts, while more representative of the year as a whole, are estimates, which must in some cases be made before the end of the traders' accounting year, and may therefore contain a margin of error.

c. The figures from the accounts relate only to traders with a profit of £2,000 or more and the forecasts to traders with a profit of £10,000 or more. The experience of these groups may differ from that of smaller concerns.

d. The "sample" is by no means a random one, even in the strata which it covers. Some trades may be very much under-represented and although an attempt is made to correct for this, by analysing the figures by trade groups and applying an appropriate weight to each, the error may still be considerable.

e. The percentage changes in profit have to be applied to figures for an earlier year (1952) which is itself partly estimated and liable to amendment.

f. The figures relate only to traders for whom the profits of two consecutive years are known. They contain no adjustment for changes due to new concerns starting business or old ones dropping out.

g. The figures derived from reports based on accounts are apt to be biased downwards, particularly when the profits are falling, for all those companies whose profits are turned into losses or whose profits fall below £2,000 will be omitted. The use of figures for companies whose profits remain above £2,000 may in this case under-estimate the fall in total profits.

INLAND REVENUE PROFIT DATA AND ADJUSTMENTS REQUIRED

Gross trading profits of companies operating in the United Kingdom

The starting point for the estimates of company profits is the trading profit assessed to income tax as defined for income tax purposes, but before any deduction is made for depreciation. Trading profits include both the trading profit assessed under Schedule D and the imputed income from owner-occupied land and buildings assessed under Schedule A (see page 147). Broadly speaking, this profit is the difference between, on the one hand, gross receipts *plus* the value of stocks held at the end of the year and, on the other, expenses incurred wholly and exclusively for the purposes of the business *plus* the value of stocks held at the beginning of the year. "Expenses" includes expenditure on stocks, raw materials, labour, etc. but excludes expenditure on capital account and provision for depreciation. To the total of company profits coming under assessment as thus calculated, a number of adjustments must be made to conform with the system of national income accounting employed here including some allowance for under-statement of income. It will be seen that some of these adjustments involve estimates of doubtful reliability.

The basic data relate to all profits subject to United Kingdom tax, and therefore (a) to the profits of all companies resident in the United Kingdom, (b) to profits from operations in the United Kingdom accruing to foreign companies. For tax purposes, a company is treated as "resident" if its central management and control are located in the United Kingdom (the definition resting on case law rather than on the statutes), whether its profits are earned from trading in this country or abroad, and whether it is incorporated or registered in this country or not. Thus the profits of companies transferring their seat of management abroad (e.g. the mining companies which recently moved to Africa) cease to be included in trading profits as from the time of transfer of residence.

Separation of companies operating abroad. The trading profits of United Kingdom resident companies whose principal trading activities take place abroad are stated separately in the appropriation account of companies. The separation of such companies is, however, to some extent arbitrary. Companies whose principal assets, except a head office, are situated abroad are the most important cases and include most of the mining, oil and plantation companies. But the activities of companies which operate both at home and abroad cannot be so easily segregated, and the whole profit is allocated to domestic or overseas operations on a judgment of the location of its principal activity. In making this arbitrary division each subsidiary company in a group is allocated individually. Insurance and shipping companies are treated as operating in the United Kingdom, whatever the actual division of their operations.

Interest. The Inland Revenue allows bank interest and certain other interest payments (but not debenture interest) as an expense in reckoning profits. In the national income estimates such interest is regarded as a share of

profits, not as a payment to a factor of production. The amount paid under this head has therefore to be estimated and added back to the Inland Revenue estimates of profit. The statistical basis for this adjustment is weak; a rough allowance is made for bank interest paid, on the basis of statistics of bank advances, and another for interest on trade deposits paid by hire purchase companies. But there may well be some minor items omitted from the rough estimate of about £50 million for this item.

Financial charges. Expenditure by companies on commissions, stamp duties and other expenses in connection with mortgages, capital issues and transfers of financial assets, is not treated by the Inland Revenue as an operating expense, except in the case of companies whose business it is to deal in financial assets. In the national income system this expenditure could be treated either as part of capital formation or as an operating expense. The latter treatment has been preferred, and the estimated amount of the expenditure (about £40 million) is therefore deducted from Inland Revenue profits figures. The estimate is largely guesswork.

Co-operative societies. The profits of co-operative societies are deemed to be their surpluses before distribution of "dividends" on sales or of interest on loans and shares. The sources are the *Annual Statistical Summary for Co-operative Societies* prepared by the Registrar of Friendly Societies, and detailed reports of tax liabilities collected by the Inland Revenue. From these sources, the Inland Revenue has built up a consolidated account for all trading societies (excluding banking and finance), cancelling out inter-society transactions.

Nationalised industries. Where nationalisation covers the whole, or virtually the whole, of an industry (e.g. coal, electricity, gas, railways) the Inland Revenue figures can be adjusted without difficulty to exclude the profits as from the date of nationalisation; for electricity (in 1948) and gas (in 1949), which were taken over on 1st April and 1st May respectively, an estimate of the profits for the part of the year during which the industry remained in private hands has been included in the figures of company profits. Road passenger transport and iron and steel present special problems because, during the period of nationalisation, the nationalised companies did not lose their identity but continued to be assessed under their own names. These companies are excluded from the figures, during the period of nationalisation, by tracing the individual assessments. It has already been pointed out that as a result of nationalisation (or of denationalisation) the scope of the company sector varies from year to year.

Insurance, banking and finance

Both because of the method of tax assessment, and because of the problems raised by the definition of "profit" as described on page 144, this group requires special treatment. It is necessary to make:

- a. an estimate of the "profit" (usually negative) which can appropriately be added to the profits of all other industries in aggregating the gross domestic product. This may be described as the "national income profit", and consists of the excess of all charges for specific services, such as bank charges and commissions, over management expenses.

- b. an estimate of their profits as usually understood (with the qualification, mentioned below, that profits or losses on investments are excluded).

In addition to the "national income profit", this includes all interest and dividends received; further, it is taken before deducting debenture interest (regarded as distributions out of profits, as in the case of other companies) but after deducting interest paid on deposits, etc. (which, from the point of view of the banks, is an expense of earning the profits)(²).

Neither of these estimates is given directly by Inland Revenue data. Income tax assessments under Schedule D on the profits of financial concerns often include interest received in full without prior deduction of tax but always exclude any interest from which tax has been deducted; profits tax assessments include both, but also include, in a form not readily separable, the profits of many subsidiary companies engaged in other trades. These estimates have, therefore, been made by building up detailed trading and appropriation accounts for each of the main types of financial concern, using both Inland Revenue data and whatever published information there is.

Separate accounts are compiled for (i) banks and acceptance houses; (ii) discount houses; (iii) building societies; (iv) insurance companies (excluding the policy-holders' share of life assurance funds, which is allocated to the personal sector); and (v) other finance and property companies. The last group includes companies actively financing specific activities such as hire-purchase and credit trading, companies whose main purpose is in holding investments in real estate, mortgages or stocks and shares, or in dealing in such investments, and an ill-defined group whose chief assets are holdings of shares that carry control of subsidiary companies. In the last case it is often hard to say whether the main activity of the company is the provision of finance or the organisation and management of a business carried on mainly through the agency of the subsidiary companies.

The accounts for *banks*(³) and *discount houses* are based primarily on Inland Revenue figures of total net income split between income taxed at source (from a series of special reports) and that assessed under Schedule D; into these figures must be fitted estimates of interest arising on the various assets and liabilities shown by the published balance sheets, made in the light of known interest rates and trends. Profits or losses on realisation of investments may be large in this group, as on the occasion of the widespread movement into shorter term investments mentioned in many bank reports for 1951 and 1952; for tax purposes, the difference between purchase and sale prices (although perhaps separated by many years) is taxed or allowed in the year of sale, but in the bank's published accounts the difference will be taken to a reserve fund built up over a number of years. Whichever way the profit or loss is brought into account, it neither represents production nor is likely to find any counterbalancing entry in computing the profits of another group, and must, therefore, be excluded; the Inland Revenue has been able to adjust its own figures, but it is not possible to adjust the profits shown by published accounts.

The *building societies* account comes mainly from the annual *Statistical Summary* published by the Registrar of Friendly Societies, supplemented by data from Inland Revenue reports. The *insurance* account is based on the

(¹) A consolidated appropriation account for this group is given on page 65 of Blue Book, 1955. The "profit as normally understood" is the total receipts less payments of "other interest".

(²) The Bank of England Issue Department, the Post Office Savings Bank and the Trustee Savings Banks are not included here, being regarded as part of the public authorities sector.

Board of Trade's summarised accounts (as shown in the *Annual Abstract of Statistics*) in conjunction with the income tax and profits tax assessments.

For other *finance companies* the chief source of the estimate of total income is Inland Revenue data, but the estimate is very unreliable. There are large amounts of income taxed by deduction and therefore excluded from the income tax assessments; the profits tax assessments include these but do not distinguish between dividends received from trading companies and from other financial companies; profits of subsidiary companies in the profits tax assessments may be hard to separate; there are frequently difficulties in deciding the true nature of the business; and there are large numbers of small property and investment companies that are not liable to profits tax at all.

The five accounts are compiled and amalgamated by the Inland Revenue. Although in many parts the available information is adequate, the reliability of the amalgamated account as a whole is poor.

Film royalties of United States companies. Film royalties (including rentals) to United States residents not trading in the United Kingdom are (like other royalty payments) exempted from United Kingdom tax under the double taxation agreement with the United States. Since these royalties are not included in the tax assessment data, an estimate of them (about £11 million a year) is added. This estimate is derived chiefly from material collected by the film industry and analysed regularly in the *Board of Trade Journal*. The figure includes royalties which are blocked in sterling, and thus exceeds the figure of actual remittances given in the balance of payments white paper. No special estimate is made for royalties accruing to other countries, of which the treatment for tax purposes varies with different double taxation agreements.

Owner-occupied property. Trading profits in the Blue Book are taken to include the imputed income from owner-occupied business property. The net Schedule A value of owner-occupied property, which is deducted by the Inland Revenue in arriving at trading profits under Schedule D, is therefore added back.

War damage repairs. War damage repairs to business property, like other repairs and maintenance, are regarded as current expenditure in the Blue Book (as distinct from complete reconstructions, which are regarded as capital expenditure). Expenditure on war damage repairs, however, is not allowed as an operating expense for tax purposes but is treated as capital expenditure offset by a capital receipt. An estimate of repairs met out of war damage compensation is therefore deducted from the figure of trading profits computed by the Inland Revenue.

Insurance claims. An addition is made to profits computed by the Inland Revenue to represent the value of insurance claims on industrial and commercial buildings destroyed by fire. Premiums paid for fire insurance cancel one another on consolidation of the accounts of companies, being operating expenses of the insuring company and current receipts of the insurance company; corresponding claims do not however cancel out, being operating expenses of the insurance company but capital receipts by the insuring company. An adjustment is needed to preserve the balance of national income and expenditure. In the case of buildings, this is done by adding claims

paid to trading profits as though the insuring company had sold the destroyed buildings to the insurance company. The estimate is derived from the summarised accounts of fire insurance companies⁽¹⁾. The adjustment is unnecessary for vehicles, plant and machinery, because in this case the estimates of fixed capital formation incorporate a deduction for "sales"; such sales include not only second-hand or scrap disposals but also compensation for assets destroyed by fire (which might be regarded as "sales" to the insurance company). Hence gross fixed capital formation includes the replacement of industrial and commercial buildings destroyed by fire, but excludes the replacement of vehicles, plant and machinery so destroyed. This inconsistency arises because census of production data of fixed capital formation (see page 290), provide details by industry of "sales", including fire destruction, for plant, machinery and vehicles but not for buildings.

Railway pooling agreement. The surplus in 1946, and the deficit in 1947, arising out of the war-time pooling agreement between the railways and the government are included, together with the guaranteed payment to the railways, in the trading profits of railway companies.

Profits tax. In comparing these statistics of company profits with those of profits assessed to income tax in the annual reports of the Inland Revenue⁽²⁾, it should be noted that in the latter source the statistics of profits earned before 1st January, 1952, are after deduction of profits tax and excess profits tax; until the Finance Act, 1952, profits tax and excess profits tax were deducted in arriving at the profits chargeable to income tax.

Income earned abroad

Trading profits of British companies operating abroad. These profits are regarded as income earned by an operating unit in the overseas country which is transferred to a head office in the United Kingdom as property income. This income is thus treated in the national income statistics in the same way as, for example, dividends received by United Kingdom residents from shares in foreign concerns; it is part of the national income but not a part of the gross domestic product. The method of separating these companies is described on page 157. It should be noted that the *whole* profit of such companies is included, whether in fact remitted to the United Kingdom or not and before deduction of all taxes paid to overseas governments so far as they are known⁽³⁾. There is an offsetting item on the payments side of the appropriation account for taxes paid to overseas governments. Profits earned abroad are, however, entered after deduction of provision for depreciation so as to be consistent with the statistics of income from abroad shown in the balance of payments white paper.

Balance of payments adjustment. The object of this adjustment is to remove certain inconsistencies between the figures of overseas income of companies in the estimates of total company income derived from Inland Revenue sources and those in the data used for the balance of payments white paper. Such differences arise for a number of reasons. Balance of payments data are derived from exchange control records and other sources of estimates (of

⁽¹⁾ *Annual Abstract of Statistics, 1955*, Table 324.

⁽²⁾ e.g. Tables 28-50 of the *98th Report*.

⁽³⁾ Broadly speaking, the whole income of United Kingdom resident companies arising from operations abroad is subject to United Kingdom tax except income which because of exchange controls cannot be remitted and on which collection of tax is postponed. In computing the United Kingdom tax, allowance is made for tax payments to overseas governments.

varying reliability) for overseas transactions, whereas Inland Revenue data include the whole profits of companies whose main operations are abroad and exclude the profits earned overseas of companies whose main operations are in the United Kingdom. The item is stated separately because it includes some income which, on a strict interpretation of the definitions used for the national income statistics, should not be regarded as part of the national income of the United Kingdom; on the other hand, this income must be included in national saving (and in company saving) to match national investment, which includes an estimate of overseas investment to which the items making up the "balance of payments adjustment" contribute.

Non-trading income of companies

Non-trading income of companies comprises their receipts of interest paid by other sectors of the economy (including public debt interest), income from the letting of land and buildings, and interest and dividends from abroad. The receipts of loan interest and investment income by insurance, banking and finance are included here. Companies' receipts of dividends and interest from other companies are excluded, as they are from the payments side of the appropriation account; the non-trading income of companies, as shown here, is thus very much smaller than it would appear to be from aggregations of company accounts such as those published by the *Economist* and *Financial Times*. All receipts are reckoned before deduction of income tax. Most of the data is obtained from Inland Revenue sources. Certain special features are noted in the following paragraphs.

Insurance, banking and finance. About two-thirds of the total non-trading income of companies consists of the interest received by banks and other financial concerns from outside the company sector. The chief elements are: interest on British government stocks, the largest item, of which most is taxed at the source by deduction; part of the discounts on Treasury bills and, in the past, interest on Treasury deposit receipts; discounts on trade bills drawn by traders other than companies; interest receivable on advances by banks to borrowers other than companies; mortgage interest receivable by building societies; hire purchase interest. These are estimated in the course of building up the estimate of the profits of the group as mentioned on page 158. The interest on bank advances, however, must be apportioned between companies and other borrowers by reference to statistics of bank advances and to the estimated differences between rates of interest charged to different classes of borrowers; discounts must also be apportioned, but by guesswork.

Rent. The figure for "rent" included here refers only to the rental income from land and buildings owned by companies and let to a tenant. (For fuller treatment see Chapter XI dealing with rent as a whole). The figure used is the total rent received less rates, water charges, insurance, provision for repairs and other current expenses. The figure is derived from estimated Schedule A values plus "excess rents" assessed under Schedule D (where property is let at a rent in excess of the net Schedule A value). The reliability of the estimate, which currently amounts to about £90 million a year, about a fifth of total non-trading income, is poor.

Government debt interest. Interest on government stocks (other than that received by the insurance, banking and finance industry) is estimated in part by the Inland Revenue, in part from the *Economist's* analysis of published accounts.

Interest and dividends from abroad. This is the only other substantial item of non-trading income of companies and is estimated by the Inland Revenue from a number of fragmentary sources. Reliability is poor. Interest and dividends paid by resident subsidiaries operating overseas to resident parent companies are part of the trading profits of British companies operating abroad. This item is restricted to interest and dividends paid from abroad to resident companies, and represents less than one-tenth of total non-trading income.

4. STATISTICAL SOURCES: APPROPRIATION OF COMPANY INCOME

Interest and dividends

The main basis of the estimate is, again, the material collected for tax assessment by the Inland Revenue, chiefly in connection with profits tax. Under this tax, distributed profits pay a higher rate of tax than the rest of the chargeable profits. Debenture interest is not liable to profits tax at either rate but is included in the income tax assessment as part of the mechanism of collection of tax by deduction at source; since the profits tax computation starts from the income tax profit, debenture interest is deducted in the computation of the assessments for profits tax. This computation therefore provides data about the total distributed profit⁽¹⁾. The amount deducted from the income tax profit, however, includes other items, e.g. royalties, for which an estimated adjustment has to be made in arriving at a figure for debenture interest. Like the data derived from income tax assessments, however, the figures are to some extent provisional and incomplete, particularly for the most recent years, and the estimates for the most recent year shown in the Blue Book must be derived from other sources.

The profits tax computations include an item of dividends received from other companies chargeable to profits tax. This makes possible (with adjustments for exempt companies) an estimate of the amount of inter-company dividend payments, which is excluded in the Blue Book from the total dividend payments made by the company sector. The same provision does not apply to debenture interest, which is not liable to profits tax in charging the paying company and is not separated from other investment income in the computation for a company receiving it; thus the estimate of inter-company payments to be excluded from the total debenture interest is a guess. Payments of interest and dividends to life assurance companies and pension funds are not treated as inter-company payments, since the life funds and pension funds are regarded as part of the personal sector.

In addition to the tax assessment data, considerable use is made of the analyses of company accounts regularly published in the *Economist* and *Financial Times*, and of the compilation of aggregate payments of interest and dividends by companies quoted on the London Stock Exchange recently published by the Stock Exchange Council⁽²⁾. These sources are used for estimating the change in interest and dividend payments in the latest year

⁽¹⁾ Adjustments must also be made for cases falling below the exemption limit for profits tax (£2,000 chargeable profit), and for abatements allowing graduated reliefs (on chargeable profits between £2,000 and £12,000).

⁽²⁾ *Interest and Dividends upon Securities quoted on the Stock Exchange 1950-1954, (1955).*

shown and for comparative purposes in other recent years. They are also the only sources from which the division between ordinary dividends and preference dividends can be estimated. The *Economist* and *Financial Times* analyses relate to the quarter or month of publication of the accounts; the Stock Exchange Council figures relate to the date of announcement of dividend payments, but figures are given only for complete years. The published figures must therefore be adjusted in order to show interest and dividend payments out of the profits earned in a particular year. The application to companies as a whole of figures derived from the accounts of large public companies only may, of course, lead to some inaccuracy as the dividend policy of smaller companies may be different.

The data from tax assessments, and those based on annual accounts (as published in the *Economist* and *Financial Times*), when adjusted for the differences in timing, relate in the first place to interest and dividends accruing from the profits of a given year, and not to the actual payments in the year. The Stock Exchange Council's compilation is on a different basis; interim and final dividends are included as each is announced. The timing is akin to, if somewhat earlier than, that of payment.

The figures shown in the Blue Book rest on the assumption that debenture interest and preference dividends are paid in two instalments, each at the end of its six months' accrual period; and that the interim ordinary dividend is paid in the year of accrual but the final dividend in the subsequent year⁽¹⁾. As explained on page 149, figures are shown both of interest and dividends paid in the year, and of "additions to dividend reserves". The sum of these two represent the total accrual of interest and dividends from the year's income.

The dividend distributions of wholly foreign-owned subsidiaries operating in the United Kingdom are excluded from the main figures of dividends in the appropriation account of companies but are included in the item "remittances and taxes paid abroad". They do not appear in the distributed profits charged at the higher rate under profits tax because exemption from the higher rate is granted for wholly foreign-owned subsidiaries. At the same time, they are omitted from the published data because they are not quoted on the London Stock Exchange. When the foreign holding exceeds 50 per cent. but is less than 100 per cent., that part of the distribution which is paid to the parent company abroad is similarly exempt and is excluded from the profits tax figures of distributions. In this case, however, the company is likely to be quoted on the Stock Exchange and included in the published figures.

Nationalised concerns. In estimating dividends from profits tax data, adjustments are needed where concerns have been nationalised or denationalised during the period.

a. Railway, gas and electricity companies, being statutory undertakings.

⁽¹⁾ These assumptions may appear crude but cannot be seriously wrong. On average, accounts are published about five months after the end of the accounting year, and the shareholders' general meeting at which the final dividend is authorised, is normally about one month after that. The profits of a calendar year (e.g. 1954) are roughly equal to the aggregate for all accounting years ending in the following March (1955). Hence the final dividends accruing in a calendar year (1954) will be roughly those authorised in the twelve months ending in the following September (1955) and paid perhaps slightly later.

were exempt from profits tax; their distributions for periods before nationalisation were therefore not included in the profits tax data and are obtained mainly from published sources.

b. Conversely, the steel concerns nationalised early in 1951 remained in the hands of the original companies, only the ownership of their shares being changed, although for national income purposes they passed out of the company sector. Their distributions for the period of nationalisation are not included in companies' distributions.

Classification of interest and dividends

The categories shown in the appropriation account of companies (Blue Book, 1955, Table 29) are the following:

- (i) *Debenture interest.*
- (ii) *Dividends on preference shares.*
- (iii) *Dividends on ordinary shares.*
- (iv) *Co-operative society dividends and interest.* The source is the *Annual Statistical Summary for Co-operative Societies* of the Registrar of Friendly Societies, together with Inland Revenue data (see page 158).
- (v) *Interest on building society shares and deposits.* Statistics of payments by building societies of interest on shares and deposits are included in the *Building Societies Statistical Summary* published annually by the Registrar of Friendly Societies. The payments so recorded are exempt from income tax (but not from surtax falling on the recipients). The equivalent gross interest is estimated by adding back the amount of income tax arising in respect of these payments which is paid by the societies.
- (vi) *Other interest paid by banks, etc. to depositors outside the company sector* is a proportion of the total bank interest estimated as shown on page 159. Inland Revenue sources show the status of the recipients of half or more of the interest but the allocation of the rest is speculative. In addition to bank deposit interest, this item includes, for years before 1948 only, the interest paid by railway companies to railway workers' superannuation funds.

Taxes and remittances paid abroad

This item comprises:

a. *Remittances of film royalties.* These are the actual remittances abroad, as shown in the balance of payments white paper (£10 million in 1954).

b. *Other profits remitted abroad.* This is an estimate of profits remitted abroad by foreign companies, or by their subsidiaries operating in the United Kingdom. The estimate is based on the sources used for estimating payments of property income abroad in the balance of payments white paper. The amount is substantial (currently over £50 million a year).

c. *Taxes paid abroad by British companies.* This consists of the taxes paid to overseas governments, normally in respect of operations abroad, by United Kingdom resident companies. The taxes in question are those levied by a central government on the basis of income; they do not include local taxes, mining royalties, etc. which are treated as operating expenses.

Relief up to the level of British taxation is now given for all such taxes and the estimates are based on records of such tax reliefs. In earlier years, tax relief, and the corresponding information, were less comprehensive, and the estimates of unrelieved foreign tax are extrapolations or guesswork. The Inland Revenue is responsible for the estimates.

United Kingdom taxes on income

Separate records are kept of the collection of profits tax, excess profits tax and excess profits levy and, except for small amounts from other sectors which can be closely estimated, these taxes fall only on companies. Income tax collection records, however, do not distinguish between companies and other taxpayers; company payments of income tax have therefore been calculated from the estimates of income. It is assumed that, following the normal course, the profits earned in year n will be assessed at the rate of tax for year $n+1$ and that the tax will be paid in year $n+2$ ⁽¹⁾; for calculating tax payments, the profits are the net profits after deducting the depreciation and other capital allowances allowed from assessments for the year $n+1$. Payment of tax on non-trading income, except where tax is deducted at the source, is assumed to lag on average only one year. Credit must then be given for tax deducted from dividends paid, less dividends and taxed interest received, in year $n+2$ at the tax rates ruling at the time dividends, etc. are paid. This method is clearly open to some error, for the payment of appreciable amounts of tax may be held up, for example by extended litigation on some point of law of wide application; but on the average about 95 per cent. of the income tax collectable out of that assessed in any income tax year is paid in the first calendar year. The reliability can, therefore, be considered good.

The additions to tax reserves are the excess of tax at current rates on the income of the year over tax paid in the year, plus any adjustment of previous reserves due to changes in tax rates. Both the tax at current rates and the adjustment of previous tax reserves are calculated by reference to the rates of tax and the estimates of aggregate income. The deduction for capital allowances is the statutory allowance due for the following year (for which the present year's profit will normally form the basis of assessment), although some of it may be carried forward and actually allowed in a later year because of insufficient profit against which to set it in some cases; similarly, credit is given for tax deductible from dividends accrued and not dividends paid in the year.

The calculations of both tax payments and additions to tax reserves are made by the Inland Revenue.

5. RELIABILITY

The reliability of most of the *basic data* used for the calculation of company income and its appropriation may be regarded as in category A⁽²⁾ both as regards absolute figures and changes, for years earlier than the last but one shown (e.g. in Blue Book, 1955, for 1952 or earlier), and as in category B

⁽¹⁾ I.e. in the last quarter (beginning January 1st, when the tax falls due) of the financial year following that in which the accounting period ends. The lag of one financial year thus becomes a lag of two calendar years.

⁽²⁾ For the classification of degrees of reliability, see page 34.

for the last year but one (1953) and—although the data are weaker—for the last year shown (1954). The adjustments made to the basic data, as should be clear from the description above, slightly reduce the reliability of the totals, but not seriously that of the changes from year to year; the reliability of some of the detailed items shown in the appropriation account may be at the lower end of category B, but the estimates of year to year changes in them, so long as the changes are not very large, are more reliable.

These judgements apply to data which in most cases consist of an aggregation of figures for a variety of accounting years. One problem in judging the reliability of the figures as they appear in the Blue Book is to know how far these aggregations of accounting years can reliably be regarded as representing the position in calendar years. Any error introduced by this factor would of course vary from year to year. Serious error would arise if it happened that companies or industries with accounting years ending early experienced a different trend from those with accounting years ending late. But no evidence is available to show whether any such influence has been significant and it is difficult to see how a satisfactory test could be made except by collecting special data of company profits on a strict calendar year basis, or for shorter periods than a year.

Chapter VII

Public Corporations

1. GENERAL DESCRIPTION

The bodies managing the industries nationalised since the war are the major component of this group; the phrase "public corporations" is used to describe both these bodies and others (e.g. the British Broadcasting Corporation) with certain similar features. Where the new public corporations superseded existing public enterprises (e.g. the Central Electricity Board until 1948), the latter are also included for earlier years.

Public corporations, in the sense used here, can be defined as public trading bodies which have a substantial degree of financial independence of the public authority—generally the Central Government—which created them. A public corporation is thus distinguished from other types of trading body by two main characteristics. Firstly, it is publicly controlled to the extent that the Sovereign, Parliament or a Minister appoints, directly or indirectly, the whole or the majority of the board of management. Secondly, it is a corporate body free to manage its affairs without detailed control by Parliament or other elected body; in particular, its financial independence includes the power to borrow and to maintain its own reserves. It is this second characteristic which distinguishes the public corporation from those trading bodies which are treated as part of the Central Government sector, such as the Post Office and the trading operations of the former Ministry of Food, the Board of Trade and the Royal Ordnance Factories⁽¹⁾, and from local authority utility undertakings. All the latter obtain their money from, and surrender their surpluses to, the public authority of which they form a part and to which they are responsible in detail for the conduct of their trading operations. Public corporations thus constitute a category somewhere between direct government trading undertakings and private enterprise. They form an important group of enterprises publicly owned and managed in the public interest, but at the same time conducted, in most respects, on ordinary business lines; they tend to differ, in economic experience and behaviour, both from "companies" on the one hand and from direct government trading on the other. These features, combined with the growing importance of the public corporations in the economy, justify their segregation as a separate sector.

In interpreting the year to year changes in the accounts of this sector, it should be remembered that the area of nationalised industry expanded continuously in the post-war years up to 1952 and has since been somewhat reduced. Public corporations were responsible for less than one per cent. of the gross national product in 1945, but in 1952 for over ten per cent.⁽²⁾.

⁽¹⁾ For a complete list of Central Government trading bodies see pages 223 and 224.

⁽²⁾ See 'Notes on the Extent of the Public Sector' by T. M. Ridley, *Journal of the Royal Statistical Society*, Vol. CXIV, Part II. (1951).

The publicly owned basic industries—coal, iron and steel (the part still nationalised), gas, electricity and transport—account for nearly all the total product of public corporations. Although some of the public corporations in other fields perform well known and very important functions, their collective contribution to the gross national product is relatively small.

The basic source of information is the published accounts of public corporations with certain adjustments described below. Figures for the latest year shown are in some cases provisional, being compiled before the appearance of the published accounts. When the accounts do not relate to the calendar year, calendar year estimates have been derived by interpolation, except for certain items in the capital account which can be more precisely timed from other information. Figures for corporations set up or terminated other than at the beginning or end of a calendar year have been included in the accounts only with respect to that portion of the initial or final year in which they were operating as public corporations.

The list of public corporations is as follows:

	<i>Commencing or vesting date</i>	<i>Date of termination</i>
Central Electricity Board	1926	1948 (1st April) ⁽²⁾
British Broadcasting Corporation	1927	
Electricity Board for Northern Ireland	1932	
London Passenger Transport Board	1933	1948 (1st January) ⁽²⁾
Scottish Special Housing Association	1937	
British Overseas Airways Corporation	1940	
National Service Hostels Corporation Ltd.	1941	
North of Scotland Hydro-Electric Board	1943	
Northern Ireland Housing Trust	1945	
Bank of England ⁽¹⁾	1946 (1st March)	
British South American Airways Corporation	1946 (1st August)	1949 (30th July) ⁽⁴⁾
British European Airways	1946 (1st August)	
New Town Development Corporations	1946 (1st December) and various later dates	
National Coal Board	1947 (1st January)	

⁽¹⁾ Excluding the Issue Department which is here treated as part of Central Government (see page 180).

⁽²⁾ Superseded by British Electricity Authority.

⁽³⁾ Absorbed in British Transport Commission.

⁽⁴⁾ Absorbed in British Overseas Airways Corporation.

	<i>Commencing or vesting date</i>	<i>Date of termination</i>
Cable and Wireless Ltd. ⁽¹⁾ .	1947 (1st January)	1950 (1st April)
National Dock Labour Board	1947 (28th June)	
Raw Cotton Commission .	1948 (1st January)	(in process of winding up)
British Transport Commission	1948 (1st January)	
British Electricity Authority and Area Electricity Boards ⁽²⁾	1948 (1st April)	
National Film Finance Company and its successor, the National Film Finance Corporation	1948 (1st October)	
Ulster Transport Authority.	1948 (1st October)	
National Research and Development Corporation	1949 (28th June)	
Gas Council and Area Gas Boards	1949 (1st May)	
Festival Gardens Ltd. .	1949 (16th November)	1953 (15th December)
Iron and Steel Corporation of Great Britain and its successor, the Iron and Steel Holding and Realisation Agency	1951 (15th February)	
Independent Television Authority	1954 (4th August)	
<i>Corporations operating wholly or mainly overseas:</i>		
Colonial Development Corporation	1948 (16th February)	
Overseas Food Corporation	1948 (16th February)	(in process of winding up)
Cable and Wireless Ltd. ⁽³⁾ .	1950 (1st April)	

Attention is drawn to the treatment of the iron and steel and road haulage industries during the process of denationalisation. From 13th July, 1953, the assets and liabilities of the Iron and Steel Corporation of Great Britain, which controlled the nationalised iron and steel companies, were transferred to the Iron and Steel Holding and Realisation Agency (apart from the liability for British Iron and Steel Stock which was transferred to the Consolidated Fund and became part of the National Debt). The primary object of the Agency is to sell the individual iron and steel concerns back to private hands—a process which began in 1953. Meanwhile, the concerns, which for the most part retained their separate identities for operating and accounting

⁽¹⁾ In 1950, Cable and Wireless Ltd. was divided. The United Kingdom assets were taken over by the Post Office. Only the operations of the remaining overseas assets are now treated as operations of a public corporation.

⁽²⁾ From 1st April, 1955 divided into two authorities: (a) the Central Electricity Authority and Area Boards; (b) the South of Scotland Electricity Board.

purposes throughout the period of nationalisation, continue to be publicly owned through the Agency, and are treated as part of the public corporations sector so long as their assets are not returned to private ownership.

In the case of the road haulage undertakings for the carriage of freight which were progressively nationalised during the years 1948 to 1952, the circumstances of denationalisation differ from those of the iron and steel industry but the statistical treatment is similar. The government declared its intention of returning the greater part of these assets, owned by the British Transport Commission, to private hands, and the Road Haulage Disposal Board was set up in 1953. Meanwhile, the undertakings continue to be both owned and controlled by the British Transport Commission until denationalised. As with the iron and steel concerns, the income earned by these assets is progressively transferred from the public corporations sector as denationalisation proceeds.

2. THE BLUE BOOK TABLES⁽¹⁾

The public corporations sector is the only sector for which it has so far been possible to produce the complete set of three accounts—operating account, appropriation account, and capital account—for which the system of social accounting provides.

THE COMBINED OPERATING ACCOUNT

The combined account for all public corporations is presented as follows:

Combined operating account of public corporations, 1954

£ million

Receipts		Payments	
Sales:		Income from employment	1,201
Revenue sales outside sector	} 2,792 ⁽¹⁾	Purchases of goods and services	1,287
Revenue sales inside sector		less Increase in value of stocks and work in progress	51 ⁽²⁾
Sales to capital account		Rent	6
	115	Taxes on expenditure:	
		Rates	29
		Motor vehicle and catering licences	5
Subsidies	4	Trading surplus before providing for depreciation and stock appreciation	332
Total	2,911	Total	2,911

Source: Blue Book, 1955, Table 32

⁽¹⁾ The division between these two items is given for 1952 and earlier years.

⁽²⁾ i.e. a decrease.

This is a consolidated trading or production account for public corporations whose trading operations are wholly or substantially conducted within the United Kingdom. For example, the two Airways Corporations are included

⁽¹⁾ References are to Blue Book, 1955.

but the Colonial Development and the Overseas Food Corporations are excluded. The surplus of operating revenue over operating expenses of public corporations whose trading is wholly or mainly conducted abroad is included in the appropriation account for public corporations as income earned abroad.

So far as possible, the operating account excludes income from the ownership of land, houses and other buildings which are let, and also excludes the corresponding expenditure on maintenance, etc. The net income from such rents appears as an item of non-trading income in the appropriation account⁽¹⁾. As in the case of other enterprises, however, rental income derived from owner-occupied property is treated as part of the trading surplus.

The operating account shows the aggregate trading results of the corporations before making provisions for, or payments of, interest and taxes on income and before making provisions for depreciation and stock appreciation. Certain adjustments have been made to the published accounts of the corporations. Firstly, abnormal maintenance and restoration of war damage, which some corporations have charged to special reserve funds, has been treated as a current operating expense and brought into the operating account, since such expenditure is excluded from fixed capital formation; on the other hand the operating account has been relieved of identifiable expenditure on items which corporations have charged to revenue in their own accounts but which for purposes of national income statistics are treated as capital payments⁽²⁾. Secondly, amounts charged by the corporations to revenue for the amortisation of long-term borrowing and for contingent liabilities (for example, the Raw Cotton Commission's provisions for possible losses on forward contracts) have not been charged to the operating account or to the appropriation account. All these adjustments affect the figures for the trading surplus of the corporations.

Purchases of goods and services *less* the increase in the book value of stocks and work in progress are entered on the payments side of the account. This is equivalent to treating the book value of the opening stock as a purchase and that of the closing stock as a sale. Hence any element of stock appreciation due to a rise in prices during the year of goods bought is deducted from purchases and appears in the figure of the trading surplus.

Sales and purchases exclude transactions between establishments in the same corporation but include transactions between corporations (estimated at £345 million in 1952) as well as transactions with other sectors of the economy. Work done by corporations for their own capital accounts, valued at cost price (cost of materials and wages) is separately stated under sales; a corresponding amount is apportioned between income of employees and purchases of goods and services on the payments side of the account. By including wages charged to capital account in this way, a closer estimate of the contribution of the public corporations to the gross domestic product can be obtained from the operating account.

⁽¹⁾ Receipts of subsidies are however included in the operating account (see next page).

⁽²⁾ See page 293.

The item of *subsidies* represents payments by the Central Government to the Airways Corporations, the National Service Hostels Corporation Ltd., the Scottish Special Housing Association, the Northern Ireland Housing Trust, the Coal Industry Housing Association and the New Town Development Corporations.

The amounts shown for *rent* include rents and other payments for the hire of land, buildings and storage accommodation so far as these items can be identified in the accounts of the corporations⁽¹⁾. *Taxes on expenditure* consist of rates, payments in lieu of rates under Part V of the Local Government Act, 1948, motor vehicle licence duties and catering licences.

THE COMBINED APPROPRIATION ACCOUNT

The combined appropriation account is presented as follows:

Combined appropriation account of public corporations, 1954

£ million

<i>Receipts</i>		<i>Payments</i>	
Trading surplus before providing for depreciation and stock appreciation	332	Interest:	
		Payments	147
		Additions to interest reserves	-3
Non-trading income	36	United Kingdom taxes on income:	
		Payments	37
Income earned abroad	2	Addition to tax reserves	-14
		Undistributed income before providing for depreciation and stock appreciation	203
Total	370	Total	370

Source: Blue Book, 1955, Table 33

This account shows how the income of public corporations is made up and how it is allocated between interest, taxes on income and savings. It corresponds to the similar appropriation account for companies and the two tables are in fact amalgamated to give a "Corporate income appropriation account" in Table 3 of the Blue Book⁽²⁾.

The first item is the *trading surplus* of the corporations operating wholly or mainly in the United Kingdom which is transferred from the operating account. To this is added their *non-trading income* consisting of investment income (before deduction of tax at source), rents receivable (*less* expenses) and miscellaneous earnings from non-trading activities; most of this item

⁽¹⁾ Excluding, as in the case of companies, imputed rent of owner-occupied property.

⁽²⁾ Table 3 is simply the aggregate of the two appropriation accounts of companies and public corporations. It is not, strictly, a "consolidated" account, because no information exists from which to estimate the interest and dividend payments between companies and public corporations; in a consolidated account such payments should disappear.

is received from outside the sector and no attempt is made to consolidate completely the account of public corporations by deducting, as should be done, receipts of non-trading income by one corporation from another. Finally, *income earned abroad* is added, being the profits of the corporations operating wholly or mainly overseas, whether remitted to the United Kingdom or not.

Interest. This item comprises interest on stock issued by the corporations, interest on compensation stock issued to former shareholders in the undertakings, interest on borrowings from the Central Government⁽¹⁾, and interest on short-term loans and bank overdrafts. It includes net revenue of the Iron and Steel Holding and Realisation Agency payable to the Exchequer (which is derived by the Agency from dividends received from the constituent companies). The half-yearly payments by the Bank of England to the Exchequer and the dividends paid by Cable and Wireless Ltd. are included. As stated in the previous paragraph, payments of interest by one corporation to another are not deducted. For each year, the difference between actual payment of interest and the amount of interest properly chargeable to the year is shown separately as an addition to (or a deduction from) reserves for future payments.

Taxation (income tax, profits tax, excess profits tax and excess profits levy) is shown in the same way as for companies. Actual payments in the year are shown separately from additions to tax reserves; these additions represent the difference between (a) actual payments in the year and (b) estimated tax at current rates on the income of the year, together with any alterations to previous reserves consequent on the Budget for the year. The reliability of the figures is limited by the degree of detail shown by the published accounts; tax that has become payable and is not in dispute may be unpaid at the balancing date and included in sundry creditors, and transactions in respect of tax liabilities taken over from former undertakings on nationalisation may not be shown separately. Reliance on the published accounts also leads to the inclusion in tax reserves of the reserves made by the corporations themselves to spread over time the tax relief given by the initial allowances for capital expenditure; this is in contrast with the treatment for persons and companies, whose practice in this matter is not uniform and for whom no such reserves have been included. Tax deducted from payments of interest, like tax deducted by companies on payment of interest and dividends, has been treated as tax falling on the recipient of the interest and not on the corporate body paying the interest.

It should be noted that the absence of equity capital places the public corporations in a different position from companies in respect of liability to profits tax; the public corporations are not liable to the higher rate of profits tax payable by companies on distributed profit. Furthermore, interest on loan capital is normally treated as a deduction from profits in arriving at the assessment for profits tax. In the case of the public corporations, only a part of such interest is deducted, the proportion being determined with reference to the pre-nationalisation proportion of loan interest to equity distributions by the former undertakings.

(1) Interest payments to the government are listed on pages 197-198, item (ii).

THE COMBINED CAPITAL ACCOUNT

The combined capital account is presented as follows:

Combined capital account of public corporations, 1954

£ million

Receipts		Payments	
Undistributed income before providing for depreciation and stock appreciation	203	Gross domestic capital formation:	
Capital transfers (net receipts)	6	Gross fixed capital formation	537
		Increase in value of stocks and work in progress	-51
Total funds available for investment	209	Net acquisition of other financial assets and net investment abroad	-90
Loans from Central Government (net)	99		
Stock issued (less stock redeemed)	105		
Additions to tax and interest reserves	-17		
Total	396	Total	396

Source: Blue Book, 1955, Table 34

The capital account shows the corporations' annual investment in fixed capital, stocks and other assets and the sources from which the investment has been financed. The account does not record transactions relating to the transfer of undertakings to or from the sector but only the transactions of corporations or parts of corporations while they are in the sector.

Receipts

The receipts represent the sources of finance. They are as follows:

a. *Undistributed income before providing for depreciation and stock appreciation* transferred from the appropriation account.

b. *Capital transfers*: this item consists of receipts of war damage compensation less payments (in the earlier years shown) of war damage contributions; Exchequer capital contributions (as distinct from loans and subsidies) such as those paid to the housing corporations and the New Town Development Corporations; Exchequer capital contributions in respect of civil defence works (see page 253) and consumers' capital contributions towards the capital expenditure of the British Electricity Authority and the Area Electricity Boards⁽¹⁾. The item also includes compensation paid to the British Transport Commission from the proceeds of the "transport levy" (page 195, note (2)); there were, however, no substantial receipts by the Commission before 1955.

c. *Loans from, less loans to, the Central Government*: interest owed to the Central Government and ordinary trade indebtedness between the Central Government and the public corporations are excluded. The item is described on page 213.

⁽¹⁾ Contributions towards the cost of connecting consumers' premises to the electricity supply, etc.

d. *Stock issued less stock redeemed* by the corporations: for this item, premiums are added to, and discounts are deducted from, the nominal value of the stock involved. Only stock issued for cash is included; stock issued to former owners of acquired undertakings is excluded.

e. *Additions to tax and interest reserves*, which are regarded as additional financial resources temporarily available, are brought back into the capital account.

Payments

The assets financed by these receipts fall into three groups:

a. *Gross fixed capital formation*: this comprises expenditure within the United Kingdom on the replacement of, and additions and improvements to, the stock of fixed assets (including work done by the corporations for their own capital accounts) *less* the proceeds from the sale of any fixed assets. It is defined at length in Chapter XI.

b. *Increases in the value of stocks and work in progress*: this includes stock appreciation as well as the physical increase.

c. *Net acquisition of other financial assets*: this item summarises the changes in all balance sheet items, both assets and liabilities, not dealt with elsewhere in the capital account, e.g. cash, bank advances, borrowing from superannuation funds, debtors, creditors and investments in fixed assets and stocks abroad. It is not unusual for a large increase in this item, representing a receipt of cash or the discharge of a bank overdraft, to be accompanied by an increase in stock issued on the other side of the account.

Where the accounts of the corporations do not relate to calendar years, estimates of receipts and payments on capital account for each calendar year have been obtained by interpolation. In the case of war damage compensation payments, loans from or to the Central Government and stock issued, exact calendar year figures have been obtained, generally from the information published by the corporations themselves or from the records of Central Government transactions. These figures have been substituted for those obtained by interpolation, and a corresponding adjustment has been made to the figures for the net acquisition of other financial assets.

ANALYSIS BY INDUSTRIES OF APPROPRIATION AND CAPITAL ACCOUNTS

Tables 35 and 36 show the appropriation and capital accounts (but not the operating account) of the public corporations grouped by industries. These tables cannot be compiled until the full accounts of the corporations are available and are therefore one year behind the combined tables.

The grouping of industries is shown in the following list:

Fuel and power industries: National Coal Board, Central Electricity Board, Electricity Board for Northern Ireland, North of Scotland Hydro-Electric Board, British Electricity Authority and Area Electricity Boards, Gas Council and Area Gas Boards.

Iron and Steel

Transport and communication: British Overseas Airways Corporation, British South American Airways Corporation, British European Airways, British Transport Commission, Ulster Transport Authority, Cable and Wireless Ltd., National Dock Labour Board.

Housing and New Town Corporations: New Town Development Corporations, Scottish Special Housing Association, Northern Ireland Housing Trust, Coal Industry Housing Association⁽¹⁾.

Raw Cotton Commission

Other corporations: British Broadcasting Corporation, National Service Hostels Corporation, Bank of England, National Film Finance Corporation, National Research and Development Corporation, Festival Gardens Ltd., Independent Television Authority, Colonial Development Corporation, Overseas Food Corporation, and the internal insurance funds mentioned below.

In their own accounts the public corporations exclude from their trading surpluses the surpluses accruing to the various internal insurance funds (which provide for various forms of compensation); these surpluses are the payments into the funds (which are mainly charged to the corporations' operating accounts) less compensation payments. Such surpluses must, however, be included in the trading surpluses of the public corporations sector for consistency with the transactions of the rest of the economy. To simplify comparison with the published accounts, the transactions of these internal insurance funds are excluded in Tables 35 and 36 from the transactions of the corporations in each industry group, and entered in the miscellaneous group of "Other corporations". The welfare activities of the National Coal Board are similarly excluded from the column "Fuel and power industries" and, like the internal insurance funds, are included in "Other corporations"; payments to the miners' welfare organisations and provision for pithead baths are regarded as operating expenses of the National Coal Board and as operating receipts of the group "Other corporations". The excess of receipts over current expenses on these welfare activities is treated as undistributed income transferred to capital account and thus as available for fixed capital formation by "Other corporations" in pithead baths and other assets for welfare services.

In the analysis of the capital accounts, the figures for gross fixed capital formation in the fuel and power industries and in transport and communication exclude the transactions arising from the transfer of the National Coal Board's wagon fleet to the British Transport Commission in 1948. The transaction has been regarded as the transfer of an undertaking and not as a sale and purchase of capital goods.

Sufficiently reliable estimates of the additions to tax and interest reserves on the basis used in the Blue Book cannot be made for each of the separate corporations. The entry for these in the combined capital account (Table 34) is therefore omitted in Table 36 from the receipts; the figure of "net acquisition of other financial assets" therefore excludes any changes in financial assets represented by changes in these temporary reserves.

(1) A subsidiary of the National Coal Board formed on 26th February, 1952.

3. RELIABILITY

The reliability of the basic data, being mainly published accounts, can be regarded as good (category A)⁽¹⁾. Chances of error arise in the adjustment to a calendar year basis, in the estimates of items in the operating account which are not always shown in the published accounts, and in some of the minor adjustments for individual items, but are probably not sufficient to reduce significantly the reliability of the tables as a whole.

(¹) For the classification of the degrees of reliability, see page 34.

Chapter VIII

The Central Government

1. THE SCOPE OF CENTRAL GOVERNMENT

The Central Government, as a sector of the economy, is defined here in a wide sense. It can be regarded as embracing all bodies for whose activities a Minister of the Crown, or other responsible person, is accountable to Parliament. One of the marks of this accountability is that such bodies submit to Parliament detailed statements of their estimated and actual expenditure and their collection of revenue. The Central Government includes, in addition to the ordinary government departments, a number of bodies (e.g. Regional Hospital Boards) administering public policy but without the substantial degree of financial independence which characterises the public corporations; it also includes certain extra-budgetary funds and accounts controlled by departments, of which the National Insurance Funds are the most important. It should be noted in particular that the accounts of the Government of Northern Ireland are combined with those of the United Kingdom Government.

The three main classes which go to make up the Central Government, as here defined, are now described in more detail. The first class is the *civil departments, revenue departments and defence departments* of the United Kingdom Government and of the Northern Ireland Government, whose expenditure is described as expenditure on "Supply Services" (1). For national income purposes this class is divided between trading bodies, i.e. bodies carrying on trading activities (such as the Post Office), and non-trading bodies. *Estimates* are published annually in February or March for all departments, showing expenditure (and some classes of receipts) expected for the year beginning 1st April; the *Appropriation Accounts* show in slightly less detail the expenditure (and receipts) actually incurred. For most trading bodies, trading accounts on a commercial (as opposed to a cash) basis are published in addition to the *Estimates* and *Appropriation Accounts*.

The second class contained within the term Central Government are bodies not administered as part of government departments but subject nevertheless to varying degrees of Ministerial or departmental control; in particular, they are subject to detailed financial control. In most cases they draw a substantial part of their income from government grants. Important examples are:

- (i) Regional Hospital Boards and the Boards of Governors of Teaching Hospitals;

(1) This class includes all bodies, boards, committees and commissions under the aegis of government departments and whose accounting arrangements are identical with those of government departments i.e. their expenditure is charged directly to Supply Votes (e.g. the Monopolies Commission, the National Parks Commission).

- (ii) the Metropolitan Police ;
- (iii) the United Kingdom Atomic Energy Authority.

There is a considerable number of other bodies, some of which are listed in Annex 2 to this Chapter. Details of the revenue and expenditure of these bodies are generally appended in the *Estimates and Appropriation Accounts* or appear as separate House of Commons papers, or sometimes as Command papers (see Annex 3). Bodies in receipt of government grants, but with independent means of financial support (e.g. universities), are treated as belonging to the company sector or to the personal sector. The borderline here between the Central Government and the rest of the economy is rather arbitrary. This problem is discussed further on page 190.

The transactions of the Issue Department of the Bank of England, though this falls somewhat outside the class of bodies described in the preceding paragraph, are treated as transactions of the Central Government. The United Kingdom-Dominions Wool Disposals Ltd. (now wound up) is also treated as part of the Central Government.

The third main component of the term Central Government, as used in the Blue Book, consists of a variety of funds for which separate accounts are maintained but which are directly administered by the departments and bodies referred to in the previous paragraphs. Examples are :

- (i) The National Insurance Funds (and for the period before 5th July, 1948, the Unemployment Fund, the National Health Insurance Funds and the Contributory Pensions Funds) ;
- (ii) the Road Fund (wound up on 31st March, 1956) ;
- (iii) the Local Loans Fund ;
- (iv) the Development Fund ;
- (v) War damage funds ;
- (vi) the Transport Fund ;
- (vii) the Iron and Steel Realisation Account ;
- (viii) the Exchange Equalisation Account ;
- (ix) the Post Office Savings Banks Fund.

A fuller list appears in Annex 3. The accounts of most of the funds referred to in this paragraph are included in the *Estimates and Appropriation Accounts* or are published as House of Commons papers or Command papers.

The Consolidated Fund might also be included in the group described in the previous paragraph. This Fund, which is virtually synonymous with the term "Exchequer", is however the "Central" account of the government and therefore stands in a class by itself. The great bulk of government revenue is ultimately paid into the Exchequer and almost all government expenditure is paid out of money issued from the Exchequer. Many Exchequer transactions are however internal to the Central Government as here defined (and therefore disappear on consolidation—see next page). But a few Exchequer transactions, such as management expenses of the National Debt, are transactions with the non-government sector of the economy.

2. GENERAL METHOD OF ANALYSIS OF THE DATA

THE CONSOLIDATION OF ACCOUNTS

The transactions of the Central Government, as here defined, are recorded, usually in a good deal of detail, in the accounts of the departments, bodies and funds discussed in the preceding paragraphs⁽¹⁾. But these accounts are not presented in a suitable form for national income purposes. Two principal operations have to be carried out to fit the large mass of data into the national income framework. In the first place, the various accounts have to be consolidated so that only transactions of the government (considered as a whole) with the rest of the economy remain. Secondly such transactions with the rest of the economy have to be classified according to the economic categories used in national income analysis.

In the first process—consolidation—transactions between any two parts of the Central Government are (with certain exceptions) eliminated. In particular, most transactions between the Exchequer and departments disappear. As an example, we may consider the case of taxes collected by the Inland Revenue. The department in due course passes the money it collects to the Exchequer. On consolidating the accounts of this department with the Exchequer account, the payment by the department to the Exchequer disappears, so that the consolidated account shows only receipts of taxes by the department from the public. Similarly issues of money from the Exchequer to departments to finance departmental expenditure disappear in the process of consolidation, and only payments made by departments to the public appear in the consolidated account. Departmental receipts from the public and payments to the public, as recorded in the consolidated account of the Central Government constructed for national income purposes, may therefore differ significantly from the receipts and issues as recorded in the Exchequer's accounts.

Other internal transactions which disappear on consolidation are:

- (i) Grants between one part of the government and another, e.g. grants by the Ministry of Pensions and National Insurance to the National Insurance Funds, and grants by the National Insurance Funds to the health departments towards the cost of the National Health Service.
- (ii) Debt interest paid by the Exchequer to government funds, e.g. government debt interest paid on securities held by the National Insurance Funds⁽²⁾.
- (iii) Lending between one part of the government and another, e.g. money invested by the Post Office Savings Bank in new government securities (through the agency of the National Debt Commissioners).

Payments between one part of the government and another in respect of goods and services rendered do not necessarily disappear on consolidation. This is because the economic category of the payment by the one part of the government may differ from the economic category of the receipt by the other part. Thus payments (in some cases imputed payments) made

⁽¹⁾ Details of the principal published accounts are given in Annex 3, page 226.

⁽²⁾ For treatment of national debt interest paid to the Post Office Savings Banks Fund and the "Fund for the Banks for Savings", see page 202.

by departments to the Post Office for telephone calls and postage or to the Ministry of Works for rentals of government-owned buildings would be classified as current expenditure on goods and services, but the corresponding receipts by the Post Office and the Ministry of Works would represent contributions to their trading and rental incomes respectively. More often however the economic categories of the receipt and payment are the same (but of opposite signs), and the transaction then disappears on consolidation⁽¹⁾. Thus, if payments by one department for services rendered by a second department are treated as current expenditure on goods and services and the receipts by the second department as a deduction from current expenditure on goods and services, the transaction disappears on consolidation; an important example is the payments made by the Service departments to the Ministry of Supply for defence equipment supplied—the payment by the Services and the receipt by the Ministry of Supply cancel on consolidation and the Blue Book shows only the payments made by the Ministry of Supply to defence contractors.

National insurance contributions paid by the government in respect of their employees and taxes on expenditure forming part of the cost of goods bought by the government are other examples of transactions which, though effectively internal, have not been eliminated in the process of consolidation.

THE ECONOMIC CLASSIFICATION OF THE CENTRAL GOVERNMENT ACCOUNTS

The object of the second main process applied to the accounts of the Central Government is to rearrange them so as to show clearly the relations between the government and the rest of the economy. This calls for a reclassification of government transactions, as set out in the accounts presented to Parliament, in accordance with the principles adopted for national income accounting as a whole. It is not suggested that the principles adopted are ideal: they are to some extent influenced by the nature of the data available both for government and for other sectors of the economy.

This rearrangement of Central Government transactions implies the division of government *receipts*, after consolidation, between:

- (i) Trading and rental incomes: These are regarded as earnings of factors of production and make a direct contribution to the national income. (Payments on operating account are deducted in arriving at the figures of trading and rental income.)
- (ii) Transfer receipts:
 - Taxes and national insurance contributions
 - Interest and dividends
 - Grants or gifts (mainly from overseas governments)
 - Borrowing, the sale of securities and other capital receipts.

⁽¹⁾ Where a classification of transactions by "purpose" (i.e. by type of service) is made in addition to the economic classification (as in Table 42, Blue Book, 1955), disappearance of the transaction on consolidation is subject to the further proviso that the branch of the government purchasing the goods or service shall be included in the same "purpose" category as the selling branch.

A comparable division of government payments is made between:

- (i) Expenditure on goods and services: These represent the transactions of the government as a final buyer and are directly recorded in the total of national expenditure. Certain non-trading receipts from the sale of goods and services are deducted so that the expenditure is recorded net. Payments incurred in the operating account of trading bodies are excluded, but appear as a deduction in arriving at figures of trading incomes.
- (ii) Transfer payments:
 - Debt interest
 - Subsidies (transfers to the operating account of public or private trading bodies)
 - Current grants to persons, local authorities, or abroad
 - Capital grants
 - Lending, the purchase of securities and other capital payments.

The rearrangement of transactions also includes a separation between revenue⁽¹⁾ and capital accounts. Expenditure on goods and services is divided between current consumption and gross capital formation. Transfer receipts included in the revenue account are taxes, national insurance contributions, interest and dividends and some of the grants and gifts. Transfer payments in the revenue account are debt interest, subsidies, and some grants.

A further subdivision is made of each class of payments according to the purpose of the expenditure, or type of service provided—a classification which differs at many points from any that might be derived from the more usual analysis according to spending departments. Because of the interlinking of the Central Government with local authorities in the provision of many services, the classification by type of service of Central Government expenditure is not shown separately. But such a classification of the consolidated expenditure of Central Government and local authorities appears in Table 42 of Blue Book, 1955, and is described in Chapter X.

THE ACCOUNTING YEAR

Two general observations need to be made in regard to the accounts of the Central Government appearing in the Blue Book. Firstly, whereas the Government's published accounts relate (with a few minor exceptions) to financial years ended 31st March, the Blue Book figures refer to calendar years. In the more important cases the calendar year figures have been built up from quarterly accounts, and in other cases they have been obtained by interpolating financial year figures (e.g. by adding one quarter of one financial year's expenditure and three quarters of the next financial year's expenditure).

BASIS OF RECORDING TRANSACTIONS

Secondly the Blue Book figures (apart from those relating to the government's trading activities and certain other activities⁽²⁾) refer to cash payments and receipts—like the accounts presented to Parliament from which the Blue

⁽¹⁾ The term "revenue account" is preferred to the term "current account"; because in the Blue Book presentation two items are included in the revenue account which from some points of view are of a capital nature (see page 193).

⁽²⁾ E.g. the substitution of interest accruing on National Savings Certificates for the interest paid on certificates cashed (see page 202).

Book figures are derived; they are not on a transactions basis (i.e. a payable—receivable basis), although this basis would be more consistent with the figures in the corresponding accounts of the sectors performing transactions with the government.

The distinction between a cash basis and a transactions basis is probably not of much importance for the bulk of Central Government transactions, which relate to the payment of wages and salaries and to transfer payments such as war pensions. The difference may however be significant in the case of purchases of goods, especially defence goods and fixed capital formation. The cash payments for goods, and on research and development contracts, do, however, include any progress payments made. Consequently, in the case of buildings, ships and other goods with a long period of production, the cash payments may be regarded as an approximation to the value of work done in the year, although not identical with it. The statistics of government expenditure on this basis are consistent with statistics of changes in the stocks and work in progress held by the rest of the economy to the extent that the returns of the latter exclude stocks and work in progress covered by progress payments (for further discussion, see pages 275-276).

A particular difficulty with cash payments for goods, especially fixed assets and defence goods, is that they tend to be heavier in the last quarter of the financial year (i.e. between 1st January and 31st March) than in the other three quarters. This unevenness in the rate of payment tends to increase the inconsistency between the cash payments basis of the government accounts and the transactions basis adopted for other sectors of the economy⁽¹⁾.

In the case of trading activities, the Blue Book figures are taken from the trading accounts which are prepared on a commercial transactions basis, so that the difficulties of obtaining consistency between the government accounts and those of the rest of the economy do not arise here.

The annual reports of the Inland Revenue give figures of taxes on income payable in each year, as well as figures of amounts actually paid to the Inland Revenue in each year (see, for example, the 98th Report for 1954-55, page 27). The Blue Book figures of tax receipts refer however in every case to cash received.

3. GENERAL PROBLEMS IN THE CLASSIFICATION OF CENTRAL GOVERNMENT TRANSACTIONS

A number of problems of definition and treatment arise in the economic classification of the Central Government's accounts. This part of the chapter deals with three such problems: the treatment of trading bodies; the classification of tax receipts; the definition of subsidies and grants and the distinction between these two types of unrequited payments.

TRADING BODIES

The major economic activities of government are expenditure on the administration and defence of the nation, the provision of various communal services "free" (or for a nominal charge), and the collection of taxes⁽²⁾. But in addition there are branches of government mainly engaged in trading and

⁽¹⁾ This point would be of major importance if accounts for periods shorter than a year were to be constructed.

⁽²⁾ "General government" in the terminology of the U.N. *System of National Accounts* and O.E.E.C. *Standardised System*.

thus akin to business enterprises (although not necessarily operating with the object of maximum profit), such as the Post Office and the trading activities of the former Ministry of Food and Ministry of Materials. Although these trading activities are a subsidiary function of government, their treatment raises special problems.

The government trading bodies⁽¹⁾ are distinguished from the public corporations (described in Chapter VII) by the fact that the former are financially integrated with the Central Government, their expenditure being specifically appropriated by Vote on a year to year basis, and any cash surpluses (apart from working balances, which may in fact be considerable) being returned to the Exchequer. Although the activities of these trading bodies resemble in many respects those of business enterprises, their financial integration with, and their control by, the Central Government bring them within the Central Government sector.

The distinction between the trading and non-trading activities of the government affects both the presentation of the government's accounts in the Blue Book and the measurement of national income. The gross trading payments (for example, the Post Office's payments of wages to postmen) are not included in government expenditure, nor gross trading receipts (the Post Office's sales of stamps) in government revenue. But the *balance* of current receipts over current payments, after adjustment for changes in stocks, debtors and creditors etc. (and with certain other modifications described below), is brought into the government's revenue receipts as trading income; and the changes in stocks, debtors and so on are brought in separately as items of expenditure. Up to a point this indeed follows the practice in the normal Exchequer accounts, where Ordinary Revenue included, for example, only the *surplus* receipts from trading services of the former Ministry of Materials, and Ordinary Expenditure only the *net* cash requirement of the former Ministry of Food; the conventional accounts do not however segregate the changes in stocks, debtors and so on, and in some cases (e.g. the Post Office) the receipts and expenditure appear "gross" on the respective sides of the Exchequer account.

The balance of trading receipts over payments (after adjustment for stocks, etc.) is not necessarily brought directly into the national accounts as "trading income". In the first place, it is recognised that some trading activities, the principal example being the trading activities of the former Ministry of Food⁽²⁾, are deliberately run at a loss; the prices at which the commodities are sold are fixed, for reasons of policy, at less than the costs of purchase and distribution. Such deficits are included here not as trading losses but as government expenditure on *subsidies*. The trading body is regarded as receiving on its operating account a payment from the Exchequer equal to its trading deficit, so that its operating account is in balance. This treatment conforms with the ordinary view of the nature of such deliberate trading deficits. The effect is that variations in the losses on trading in, for example, food are taken account of as variations in the expenditure on subsidies, so that neither the government's trading income nor the size of

(1) "Government enterprises" in the terminology of the United Nations and O.E.E.C. reports, which also recognise the distinction between these bodies and financially independent "public corporations".

(2) Now transferred to the Ministry of Agriculture, Fisheries and Food.

the national income are directly affected. The operation of civil aerodromes by the Ministry of Transport and Civil Aviation is another example of a trading activity in which the deficiency of receipts in relation to costs is treated as a subsidy.

On the other hand, the Post Office is able by virtue of its monopoly or near-monopoly to fix selling prices so as to yield a trading surplus. This surplus, by analogy with the subsidies just described, is appropriately treated not as trading profits but as a tax on expenditure⁽¹⁾.

This leaves as trading income the surpluses of those Government trading bodies which aim, broadly, at covering their costs over a period (for example, the State Management Districts, or the Royal Ordnance Factories which transfer most of their products at "cost" to other branches of government). Such bodies may, however, make substantial surpluses (or deficits) in a particular year, which can reasonably be regarded as analogous to the profits of private businesses and thus as factor incomes contributing to the national income. Major examples are trading activities in raw materials. Such surpluses (or deficits) may consist largely of stock appreciation but this in no way invalidates the analogy with private merchants dealing in similar commodities.

The distinction between these three classes of trading surpluses (or deficits)—deliberate deficits treated as subsidies, monopoly surpluses treated as taxes on expenditure, and the surpluses or deficits of trading bodies aiming at balancing their accounts over a period which alone are regarded as trading profits or losses—is often difficult to draw. The general criterion applied is, however, to regard as trading income only those surpluses which can be regarded as analogous with the profits of private businesses. The way in which the criterion is applied in each case is noted in the list of trading bodies given in Annex 1 (page 223).

There is, however, a further complication. Throughout the system of national income accounting used here, trading incomes or "profits" are defined (a) before deducting any provision for depreciation (because of the absence of a proper measure of depreciation), and (b) before deducting any payments of interest (because interest payments are treated throughout as transfer payments not as payments to factors of production). The trading income of government must be defined, for consistency, in the same way. Hence a government body which provides goods and services exactly at "cost"—which normally means after including in the price an allowance for depreciation and interest charges and whose normal commercial accounts are therefore exactly in balance—must be regarded for national income purposes as having a "gross trading income" exactly equal to this provision for depreciation and interest charges⁽²⁾. Similarly, an element of depreciation and interest is included under "gross trading income" in respect of those bodies which do not aim at recovering their costs; the subsidy to such bodies is measured by the excess of trading costs, including in such costs

(1) This is in accordance with the treatment of State monopolies recommended by the United Nations and O.E.E.C.

(2) Royal Ordnance Factories are the principal example. In fact, no allowance for interest charges is made in the prices at which the Factories transfer their products to Service departments. But for national income purposes an allowance for such interest is made in the figures of their trading income and in the estimate of defence expenditure.

depreciation and interest, over trading receipts. An element for depreciation and interest is also included under "gross trading income" in respect of the Post Office, whose trading surpluses are treated as taxes on expenditure; the amount of the "tax" is the excess of trading receipts over all trading costs including depreciation and interest. In the context of these remarks, the estimates of depreciation are those appearing in the Trading Accounts of the bodies concerned; they are in every case based on the original (i.e. historical) cost of the fixed assets in use⁽¹⁾.

The item "gross trading income", which, with "gross rental income", is the contribution of government to the gross national product, therefore consists of:

a. the depreciation (at historical cost) and interest of those trading bodies aiming as a matter of policy at gaining a surplus (the Post Office) or incurring a loss (e.g. the former Ministry of Food);

b. the trading surpluses, before deducting depreciation and interest, of other trading bodies (i.e. those which aim broadly at covering their costs).

The criteria for distinguishing the trading activities of the Central Government from its other activities are:

a. that the activity consists in production of goods and services, or in trading, of a kind which is or might be conducted by a private business;

b. that distinct sales, either to the public or to a separate branch of the government, can be identified; and that the sales account for the major part of the product;

c. that separate accounts of the activity are kept on a commercial accounting basis; or, failing this, that records exist from which such accounts can be constructed.

In nearly every department of the government, there are branches which recover part of the cost of the services they provide from sales to the public. Examples range from the shilling charge for National Health Service prescriptions to the sale of postcards at the National Gallery. It is the exception, rather than the rule, to treat such activities as trading. Although prices charged may in some cases represent fairly accurately the cost of the goods and services provided, if these are considered in isolation, the activity is incidental to the general community service being provided by the government free of charge. In some instances, the fees charged represent only a part of the cost, (e.g. the shilling charge for National Health Service prescriptions). The method followed in the Blue Book is therefore to deduct the receipts from the corresponding expenditure and to enter "net expenditure" in the government accounts. This treatment differs from the treatment of trading activities in that no attempt is made to calculate a profit or loss. Payments made by persons for, say, prescriptions and National Gallery postcards reappear elsewhere as a component of consumers' expenditure.

A full list of the government trading bodies is given in Annex 1 to this chapter (page 223). It should be observed that not all government establishments engaged in production of physical goods are treated as trading

⁽¹⁾ From 1st April, 1956, the Post Office's depreciation provision will be related to replacement costs (see the *Report on Post Office Development and Finance, 1955*, Cmd. 9576).

bodies. For example, although the Royal Ordnance Factories are so treated, the Admiralty Dockyards, R.E.M.E. workshops and R.A.F. Maintenance Units are not. Nor are atomic energy establishments treated as trading bodies, either when the establishments were run by the Ministry of Supply, or since the establishment of the United Kingdom Atomic Energy Authority⁽¹⁾ in 1954. These cases are not treated as government trading bodies because the production is of such a kind that it could not be carried on by a private producer, or because no distinct sales can be identified or, if identifiable, account for a negligible part of the product, or because the available records do not lend themselves to a trading analysis.

It will be seen from Annex 1 that trading activities include not only the purchase and sale of goods and services but also the ownership and leasing of fixed assets (e.g. Crown Lands, factories in Development Areas and machine tools for defence production). The Government's income from the ownership of these fixed assets is shown, however, not under the heading "gross trading income" but under "gross rental income", along with rental income from other government property⁽²⁾.

THE CLASSIFICATION OF TAX RECEIPTS

The tax revenue of the Government is classified into:

- taxes on income (broadly "direct taxes");
- taxes on capital;
- taxes on expenditure (broadly "indirect taxes");
- national insurance contributions (treated as a direct tax on income).

Most taxes fall clearly into one of these groups. But problems of allocation arise in certain cases.

The distinction between these different kinds of taxes is important for two reasons: (a) if a tax is treated as a payment from the capital account of, say, persons, consistency requires that it should be regarded as a capital receipt of government; if it were regarded as a current receipt of government, then the government's income would be increased by a transfer not reflected in a current payment by the personal sector; (b) taxes on expenditure, as distinct from taxes on income and capital, are regarded as an element in the prices of final expenditure having no counterpart in factor incomes.

Taxes on capital and taxes on income

Two taxes on capital are distinguished: death duties and the Special Contribution (a "once for all" tax levied in 1948-49 and assessed on the basis of investment income). Both these taxes are regarded as payments from the capital account of the taxpayer, not because of the basis (capital or income) on which they are assessed but because the payments are "once for all". It is a realistic presumption that the payment of death duties results in a roughly comparable diminution in the capital assets of the personal sector; the same is true, although with less certainty, of the "special contribution".

⁽¹⁾ The Authority is here treated as part of the Central Government.

⁽²⁾ Imputed rental income from land and buildings owned and used for the government's own trading activities, is, however, included in gross trading income, as with other trading enterprises.

On the other hand, the Central Government can rely on more or less regular receipts from the death of property owners. Hence it is reasonable, from the point of view of the Government, to treat death duties as receipts on *current* account, as is done in the "conventional" Exchequer accounts. This treatment is also followed in the Blue Book. The argument does not apply to the special contribution, but that tax was significant as a source of revenue only from 1948 to 1950, and hardly justifies the institution of a special category of tax in the capital account.

Thus, in the Blue Book, death duties and the special contribution are treated as payments from the capital account of persons and as receipts on revenue account by the Central Government. This appears to be the most satisfactory treatment for study of the accounts of the personal sector in isolation, and of the Central Government in isolation. But an adjustment is needed when the savings of all sectors are added together or compared. This is done (e.g. in Tables 6 and 45 of the Blue Book, 1955, where the savings of all sectors are shown) by deducting from the Central Government surplus on revenue account, as shown in Table 37, the receipts from taxes on capital.

Taxes on income and taxes on expenditure

The distinction between taxes on income and taxes on expenditure may cause difficulty in marginal cases. Broadly, taxes which constitute costs of production, such as alcohol and tobacco taxes, can be treated as taxes on expenditure; they are current costs, but not factor rewards. They include monopoly or quasi-monopoly profits of government trading (see page 186). Taxes on final buyers associated with the purchase, possession or use of particular goods are also treated as taxes on expenditure: for instance, motor vehicle licence duties and stamp duties on the transfer of property⁽¹⁾. Doubt may arise, however, over the treatment of taxes on property. Thus income tax under Schedule A on land and buildings which are let to tenants can reasonably be regarded as a tax on rental income, since it is in fact related to annual income. It might be argued that the Schedule A tax on an owner-occupier should be regarded as a tax on expenditure since it is a necessary cost associated with possession of property, like local rates which are treated as taxes on expenditure. The Schedule A tax, however, is charged in respect of the rental income imputed to the owner-occupier, while local rates are, in general, charged in respect of occupancy. Hence all Schedule A tax is treated as a tax on income.

Any *fees* and licences paid to the government for services which the government alone can provide, or for which there is no parallel among the services provided by private industry, are included among taxes on expenditure. Examples are passport fees and fees for applying to the courts. Fines or penalties imposed by the government are also treated as taxes on expenditure⁽²⁾. Fees and receipts for services rendered, in cases where the govern-

(1) Stamp duties on transfers of land and buildings, like purchase tax on motor vehicles used by businesses, are regarded as a tax on capital expenditure.

(2) In the United Nations and O.E.E.C. reports, such fees and fines are treated as a special category of transfer payments by persons to government. They would therefore not be included in consumers' expenditure. This treatment has much to commend it since many such fees, fines, etc. cannot strictly be regarded as part of the "market price" of particular goods and services. But the items seem hardly important enough to justify a separate category of payments.

ment does not enjoy a monopoly or compulsory powers, are treated as a deduction from government current expenditure on goods and services (e.g. charges for National Health Service prescriptions).

National insurance contributions

National insurance contributions from employers and employees are treated as a form of tax on income because the national insurance system, being compulsory, must be regarded as an instrument of public policy rather than as a trading activity comparable with private insurance schemes.

SUBSIDIES AND GRANTS

Both subsidies and grants are unrequited payments; the distinction between them is that subsidies are unrequited payments to *trading* concerns, whether public (e.g. the former Ministry of Food's trading branches) or private (e.g. deficiency payments to farmers); such payments are treated as current trading receipts of the recipient and have the effect of reducing his selling prices below factor costs of production (just as taxes on expenditure are treated as costs of production raising prices). Grants, on the other hand, are not direct payments into trading accounts. Central Government grants, therefore, comprise transfer payments to persons, non-profit-making bodies, local authorities, overseas governments and international institutions. A number of special problems arise in applying these criteria to certain government payments which might be treated as subsidies, or as grants, or in some other way.

Payments to grant-aided bodies

Three classes of grant-aided bodies may be distinguished:

- (i) Grant-aided bodies which are wholly, or almost wholly, financed by the government—although with varying degrees of independence in operation—and which are subject to the same sort of financial control as that imposed on ordinary government departments, are treated as part of the Central Government, as explained on page 179. On consolidation of accounts, the grants to such bodies therefore disappear and their full expenditure is recorded as part of Central Government expenditure (including any expenditure financed from other sources). This category includes, for example, the Medical Research Council, the British Council and the United Kingdom Atomic Energy Authority.
- (ii) Bodies serving industry, supported by the government but not wholly dependent on government funds nor subject to detailed financial control, are treated as trading concerns (like trade associations) although they do not trade or produce in the ordinary sense. Examples are the Council of Industrial Design and the Dollar Exports Board. The Central Government's payments to these bodies are treated as government purchases of goods and services; (the excess of the bodies' receipts over their current expenditure is treated as private trading profits).
- (iii) Other grant-aided bodies are those which, like the second category, are only in part dependent on grants from the government but whose functions are to provide services to persons. The Universities are the principal example. These bodies are treated as part of the personal

sector. The government payments to them are treated as government grants to persons, and their expenditure on goods and services is included in consumers' expenditure.

Annex 2 (page 225) gives a list of the main grant-aided bodies, showing under which of these three categories each appears.

Advisory and other services to industry

The government provides certain advisory services—for agriculture, fuel economy, export promotion, etc.—which might otherwise be provided by private organisations on a commercial basis. The cost of these services is treated in the Blue Book as government expenditure on goods and services. It might, however, be argued that this cost in effect represents a subsidy to industry and should be treated as such. This argument might be extended to many other services to industry rendered by the government, such as the operation of employment exchanges by the Ministry of Labour and National Service or the services of the Board of Trade and other departments in regulating industry and trade or in producing commercial or statistical information. If the cost of such services were treated as subsidies, there would be imputed subsidy payments by government to industry, balanced by a corresponding imputed cost of production, in the trading accounts of industry; industry's trading profits would remain unaffected. The desirability of avoiding such imputations, together with the difficulty of determining which government services could reasonably be regarded as services to industry and which branches of industry benefit, rules out this method of treatment.

Grants in kind

Part of the trading losses of the former Ministry of Food⁽¹⁾, as recorded in its trading accounts, is due to the sale of welfare foods and of milk to schools at less than the normal retail price. These losses might be regarded as subsidies, along with the rest of the trading losses of the former Ministry of Food. In fact, for reasons given on page 60, the cost to the government of the welfare food and school milk schemes (together with the net cost to local authorities of the provision of school meals) is treated in the Blue Book as a current grant to the personal sector⁽²⁾.

4. THE BLUE BOOK TABLES (3)

Three tables are devoted to the presentation of the Central Government's accounts.

The revenue account (Table 37). This is also summarised in Table 4.

The capital account (Table 38).

(1) Now the Ministry of Agriculture, Fisheries and Food.

(2) At 1st October, 1954, 1st April, 1955 and 1st October, 1955, certain administrative changes were made in the allocation of the cost of welfare foods and of milk-in-schools between the various Votes and Sub-heads. Part of the cost is now borne by local education authorities (who are reimbursed by grants from the education departments), part by the health departments and part by the Ministry of Agriculture, Fisheries and Food. From 1st October, 1955, none of these costs appears in trading sub-heads. The argument set out above is however still valid.

(3) References are to Blue Book, 1955.

The revenue account of the National Insurance Funds: the transactions of these Funds are included in the Central Government's consolidated revenue and capital accounts in Tables 37 and 38, but are also shown separately in Table 39.

In addition, an analysis by type of service of Central Government expenditure, consolidated with that of local authorities, is given in Table 42, under the heading "Combined public authorities". In the same group of tables will be found an analysis of tax revenues (Tables 43 and 44).

THE REVENUE ACCOUNT

The revenue account is presented as follows:

The revenue account of Central Government including National Insurance Funds, 1954

£ million

Revenue		Expenditure	
<i>Taxes on income</i>		<i>Current expenditure on goods and services</i>	
Income tax	1,740	Military defence	1,520
Surtax	132	Health services	460
Profits tax	177	Other	332
Excess profits tax, excess profits levy, etc.	76	Total current expenditure on goods and services	2,312
Total taxes on income	2,125		
<i>Taxes on capital</i>		<i>Transfer payments</i>	
Death duties	182	<i>Subsidies</i>	
Special Contribution	1	Housing	84
Total taxes on capital	183	Agriculture and food	312
<i>Taxes on expenditure</i>		Transport and communication	7
Customs and excise duties:		Other industry and trade	—
Beer	252	Total subsidies	403
Wines and spirits	136		
Tobacco	651	<i>Current grants to persons</i>	
Hydrocarbon oils	300	Post-war credits	23
Protective duties	77	Release leave pay	—
Purchase tax	322	Education and child care ⁽¹⁾	38
Entertainments	43	Milk and welfare food schemes	43
Betting	30	National insurance, pensions and assistance:	
Other	33	National insurance	531
Total customs and excise duties	1,844	Other ⁽¹⁾	316
Motor vehicle licence duties	77	Other	13
Stamp duties	72	Total current grants to persons	964
Post Office surplus	6		
Miscellaneous	17	National debt interest	623
Total taxes on expenditure	2,016	Current grants to local authorities	432

⁽¹⁾ These items are further subdivided in the Blue Book Table. See the notes on these items below.

Revenue		Expenditure	
<i>Other revenue</i>		<i>Current grants paid abroad</i>	
National insurance contributions	532	Overseas governments and inter- national organisations	45
Gross trading income ⁽²⁾	86	National insurance and war pen- sions paid to non-residents	8
Gross rental income from land, buildings and plant ⁽²⁾	42	Total current grants paid abroad	53
Interest and dividends, etc.	173		
Current grants from overseas governments (net)	50	<i>Transfers to capital accounts</i>	
		Post-war refunds of excess profits tax	4
		War gratuities and pay credits	—
		War damage compensation ⁽¹⁾	40
		Capital grants to local authorities	12
		Other	29
		Total transfers to capital accounts	85
		Total current expenditure on goods and services and transfers	4,872
		Surplus, before providing for de- preciation and stock appreciation	335
Total	5,207	Total	5,207

Source: Blue Book, 1955, Table 37

(¹) These items are further subdivided in the Blue Book Table. See the notes on these items below.

(²) Before providing for depreciation and stock appreciation.

The "revenue account" corresponds to the "current account" or "income and expenditure account" presented for other domestic sectors. It is not strictly a current account because it includes certain transactions which from the point of view of the rest of the economy must be described as capital transactions, namely: (a) Central Government receipts of capital taxes; these are taxes which are regarded as paid from the capital accounts of persons but which from the point of view of government may be regarded as yielding a regular income (for discussion see page 188); (b) Central Government transfers to the capital accounts of the recipients (for example war damage compensation and grants towards university building extensions); these again have been regarded as sufficiently regular in their incidence to be treated from the government's point of view as current outgoings. Both classes of transactions must be removed from the revenue account to produce a current account consistent with those set up for other sectors of the economy. In particular, when the savings of the Central Government are compared with the savings of the rest of the economy, the surplus on revenue account of the Central Government must be adjusted by (a) deducting receipts of capital taxes, and (b) adding the "transfers to capital accounts". This is done in Table 6 of Blue Book, 1955 which presents the combined capital account of the nation and in the first item of Table 45, which brings

together the savings of all sectors. The surplus on revenue account must not therefore be taken as representing the contribution of the Central Government to the financing of national investment.

The notes in the following paragraphs describe the composition of the separate items in the table. References to income and expenditure in Great Britain must be taken to imply reference to the corresponding income and expenditure in Northern Ireland.

Taxes on income⁽¹⁾

These consist of receipts from, *less* repayments to, taxpayers resident in the United Kingdom of : (a) income tax (excluding income tax deducted from excess profits tax post-war refunds), (b) surtax, (c) profits tax (this was called the national defence contribution before 1947), (d) excess profits tax and excess profits levy (net receipts of excess profits tax are shown without deduction of post-war refunds of this tax; the post-war refunds (*less* income tax thereon) are recorded separately as a transfer to capital account on the expenditure side of the table (see page 203). Small receipts in respect of arrears of war damage contributions are also included. The figures relate to actual receipts of tax, not to the amount of tax ultimately payable *on* the income earned in the year, nor to the tax legally payable *during* the year.

As already explained on page 181, the amount shown in the Blue Book is the amount collected by the Inland Revenue from the public and not the amount received by the Exchequer from the Inland Revenue.

Net receipts by the United Kingdom Government of taxes on income from non-resident taxpayers are treated as government income from "Interest and dividends, etc." and not as tax receipts; these taxes are in fact normally paid in this country by deduction from income going abroad. In the balance of payments table in the Blue Book, the corresponding amount is treated as income received from abroad (see page 344).

The allocation of the total amount received between different types of income and different types of taxpayer is described on page 270.

Taxes on capital⁽¹⁾

These consist of net receipts by the Inland Revenue from death duties and the Special Contribution.

Taxes on expenditure⁽¹⁾

These consist of net receipts from those taxes which are treated as part of the costs of production of particular commodities, or which fall on specific kinds of expenditure. They are divided as follows :

- (i) Customs and Excise duties (derived from Customs and Excise returns). The classification is that used in the annual reports of the Commissioners of H.M. Customs and Excise.
- (ii) Motor vehicle licence duties (derived from returns of Exchequer receipts). These duties are collected by local authorities as agents of the Ministry of Transport and Civil Aviation and remitted via that Ministry to the Exchequer. Figures of collections from the public

⁽¹⁾ For a general discussion of the distinction between taxes on income, taxes on capital and taxes on expenditure see page 188.

are not available, but the difference between such figures and Exchequer receipts would be small.

- (iii) Stamp duties (derived from Inland Revenue returns). The largest sources of revenue are duties on conveyances of land and houses, on transfers of stocks and shares and on cheques⁽¹⁾.
- (iv) Post Office surplus (derived from Post Office returns; financial year figures appear in the *Commercial Accounts*).
- (v) Miscellaneous items—these consist of:

	£ million 1954
a. Fees from government permits, fines, penalties, etc. included among appropriations-in-aid of departmental expenditure (derived from analysis of <i>Appropriation Accounts</i>)	10
b. Certain items included among Miscellaneous Revenue of the Exchequer (derived from the <i>Finance Accounts</i> and <i>Appropriation Accounts</i>); until recently, the main item was receipts by the Central Land Board from development charges under the Town and Country Planning Acts, 1947	1
c. Licence revenue retained by local authorities—mainly dog and gun licences (derived from local authority accounts)	1
d. Inland Revenue duties, other than stamp duties and taxes on income and capital, e.g. land tax and mineral rights duty (derived from Inland Revenue returns)	1
e. Transport levy ⁽²⁾	4
f. Amount of broadcast licence revenue retained by Exchequer ⁽³⁾	4
Total	21 ⁽⁴⁾

National insurance contributions

These contributions are treated as a form of tax on income. The contributions from different types of contributor are shown separately in Table 39, Blue Book, 1955.

⁽¹⁾ A full analysis is given in the annual reports of the Inland Revenue.

⁽²⁾ Under the Transport Act, 1953, a levy was imposed from 1st January, 1954, on road goods vehicles of over 1½ tons unladen weight. The proceeds are paid into the "Transport Fund" administered by the Ministry of Transport and Civil Aviation. Out of the Fund payments are made to the British Transport Commission as compensation for the capital loss sustained by the Commission on the sale of part of its road haulage undertaking. In the Blue Book, these payments to the Commission are treated as capital grants (see page 263).

⁽³⁾ The British Broadcasting Corporation is treated as a public corporation, the trading revenue of which comes from the sale of broadcast receiving licences. The amount shown here as tax represents gross receipts by the Post Office for broadcasting licences, less the "grant" actually paid to the B.B.C. for its Home Services. This is consistent with the treatment of the B.B.C. adopted in the section on public corporations; the B.B.C.'s revenue ("sales") is taken to be the grants received from the Government. The tax on expenditure, as here defined, is regarded in the Blue Book as being paid directly by licence-holders and not by the B.B.C.

⁽⁴⁾ Revised figure. In the Blue Book, 1955, the proceeds of the transport levy were omitted.

Gross trading income

This item is defined on page 187. It excludes the income arising from the ownership and letting of fixed assets (land, buildings, plant, etc.) which appears under "Gross rental income", but includes the imputed income from the ownership of fixed assets used for the government's own trading activities. The loss borne by the government during the period of government control of the railways (which ended on nationalisation at 1st January, 1948) is included here as a negative item. (For further discussion see pages 184 to 188.) A list of trading activities is given in Annex 1 to this chapter (page 223). The following shows the composition of the item in 1954 (excluding the trading income of the Post Office Savings Bank—see page 199):

	£ million
<i>Trading surpluses before deducting depreciation and interest</i>	
Shipping operations	2
Board of Trade commodity trading ⁽¹⁾	7
Other trading bodies	6
<i>Interest and depreciation only⁽²⁾</i>	
Royal Ordnance Factories	7
Ministry of Food	8
Forestry Commission	3
Post Office	50
Civil aerodromes	3
Total	86

Gross rental income from land, buildings and plant

Like trading profits, the rental income of the Central Government is a direct contribution to the national income. The principles applied are the same as those used for other sectors and are described in Chapter XII. In particular, rental income is measured before deducting depreciation and interest on capital. The imputed rental income from land and buildings owned by the government and used by government trading bodies is not included under "gross rental income"; as with other trading enterprises, the income is included in "gross trading income".

The following shows the composition of the item in 1954 :

	£ million
<i>Rents received less expenses⁽³⁾</i>	
Ministry of Supply machine tools, plant, etc.	9
Board of Trade factories	1
Crown Lands	1
<i>Imputed rental incomes</i>	
Temporary houses	24
Married quarters for the Armed Forces at home ⁽⁴⁾	1
Temporary schools	2
Government offices	4
Total	42

⁽¹⁾ Before August 1954, this trading was carried on by the Ministry of Materials.

⁽²⁾ Depreciation based on historical cost.

⁽³⁾ Before deducting depreciation and interest.

⁽⁴⁾ Those financed under the Armed Forces (Housing Loans) Acts, 1949 and 1953.

The imputed rental incomes from the government-owned temporary houses and Armed Forces' married quarters are taken to equal the annuities (i.e. interest and amortisation of capital) paid by the housing departments and the Service departments respectively to the Exchequer (which financed the cost of these fixed assets). Similarly the imputed rental income from government-owned temporary schools is taken to equal the annuities paid by the education departments to the Ministry of Works (which financed the building of the schools). In the cases of the temporary houses and temporary schools, the excess of this imputed rental income over the amounts actually received from local authorities for the use of the houses and schools is treated in the one case as part of housing subsidies (see page 255) and in the other case as current expenditure on goods and services (in the educational service—see page 256). In the case of married quarters for the Armed Forces, the excess of the imputed rental incomes *plus* repairs and other expenses *over* the rents received from tenants is treated as current expenditure on goods and services for defence.

Because the life of temporary houses is exceeding the 10 year life envisaged at the time of construction, the period over which the annuities are to be paid by the housing departments has been extended by several years, with a consequential reduction (as from 1st April, 1955) in the annual payment. This will result in a substantial reduction in 1955 and later years to the Blue Book figures both for the imputed rental income from temporary houses and for the government subsidy on temporary houses.

The imputed rental income for offices owned and used by the government is based on the area in use and the market rental value per square foot of office accommodation of different types and locations. A corresponding amount is imputed in government current expenditure on goods and services.

No income is imputed in respect of other non-trading fixed assets owned and used by the government, although the purchase of such assets is treated as capital expenditure. Such an imputed income would increase the gross national product but would need to be offset by an equivalent imputation of current expenditure on goods and services (representing the current use made of these assets). The principal classes of assets for which no rental incomes are imputed are hospitals and establishments used by the Ministry of Supply and the Atomic Energy Authority for research and development.

Interest and dividends, etc.

This consists of the following items in 1954:

	£ million
(i) Interest on loans to local authorities (paid into the Local Loans Fund) ⁽¹⁾	86
(ii) <i>Public corporations</i>	
a. Interest on loans to public corporations (principally the National Coal Board, the Raw Cotton Commission, the housing and new town corporations and the Colonial Development Corporation)	7
b. The interest element of the annuities by which the National Coal Board is repaying to the Ministry of Fuel and Power the amounts paid as compensation to former coal-owners	12
<i>carried forward</i>	105

⁽¹⁾ This exceeds the interest paid by the Local Loans Fund into the Exchequer. The "excess" interest is available for further lending to local authorities.

	£ million
<i>brought forward</i>	105
c. <i>less</i> Interim income paid by the Ministry of Fuel and Power to former coal-owners (before deducting income tax) <i>plus</i> amounts reimbursed to the Ministry by the National Coal Board ⁽¹⁾	-3
d. The annual payment by the Bank of England to the Exchequer under the Bank of England Act, 1946, Section 1 (4)	2
e. Dividends paid by Cable and Wireless Ltd.	1
f. Net revenue of the Iron and Steel Holding and Realisation Agency paid into the Exchequer ⁽²⁾	—
g. <i>less</i> Net operating deficiency of the Overseas Food Corporation borne on Central Government "Supply" Votes	—
(iii) Interest on loans to overseas governments	1
(iv) Dividends on shares (Suez Canal and British Petroleum Company)	8
(v) The net surplus on the operation of the Post Office Savings Bank (see below and on opposite page)	2
(vi) Excess of interest on securities held by the "Fund for the Banks for Savings" ⁽³⁾ <i>over</i> interest paid on money invested by the Trustee Savings Banks in this fund	2
(vii) Taxes on income paid by non-residents (see page 194)	21
(viii) Investment income of certain extra-budgetary funds exclusive of income in the form of national debt interest (e.g. the National Insurance Funds), interest on other loans (e.g. to industrial undertakings) and miscellaneous investment income	34
Total (before the revision referred to on the opposite page)	173

The surplus in 1954 of the Post Office Savings Bank (item (v) above) is made up as follows:—

	£ million
Interest on securities held by P.O.S.B. Fund ⁽³⁾	52
<i>less</i> Interest credited to depositors	-42
Net income from interest	10
<i>less</i> Expenses of operation	-8
Net surplus	2

(1) "Interim income" is payable to former coal-owners until their claims to compensation (see page 213) are satisfied. It would be more in line with the treatment of interest on compensation stock and of the interest paid by the N.C.B. to the Ministry of Fuel and Power (item b above), if interim income paid to coal-owners were included in "National debt interest" (see page 202) and only the N.C.B.'s reimbursement were shown here.

(2) The Exchequer assumed liability for the Iron and Steel Stock outstanding on 13th July, 1953, and from that date the net revenue of the Iron and Steel Holding and Realisation Agency accrues to the Exchequer. The first Exchequer receipt appears in 1955.

(3) Including interest on government securities.

In conformity with the definition of the trading income of banks used elsewhere in the Blue Book (see pages 143-146), the trading income of the Post Office Savings Bank is a loss equal to its expenses of operation (i.e. a loss of £8 million in 1954) which is offset by its investment income (£10 million in 1954). The trading income (so defined) was erroneously included in the 1955 Blue Book and previous Blue Books as part of interest, dividends, etc. In consequence the amounts to be *deducted* from gross trading income, as shown in the Blue Book, 1955, and *added* to interest, dividends, etc. are, for the years 1946 to 1954, £ million 5, 6, 7, 6, 6, 7, 8, 8 respectively.

For earlier years deductions have been made in arriving at the estimate for "interest and dividends, etc." for the half-share of the profits of United Kingdom-Dominions Wool Disposals Ltd. paid to the Dominion participants and for losses incurred in 1946 and 1947 through currency operations of British troops and government employees abroad.

Current grants from overseas governments (net)

The only grants (or gifts) treated as current grants received by the Central Government are those from overseas governments. Defence Aid is treated as a current receipt since it is regarded as financing a particular form of current expenditure by the government, namely defence expenditure. On the other hand, receipts of aid under the European Recovery Programme are treated as a method of financing a deficit in the balance of payments; they are therefore treated as capital receipts of government. This distinction between current and capital grants follows the treatment in the balance of payments white papers: it is based on the purpose of the grant in each case, as conceived by those responsible for policy, not on the objective characteristics or accounting features of the transaction. In fact the government accounts do make the same distinction; Defence Aid is appropriated in aid of Supply expenditure and the United Kingdom share of the sterling counterpart of aid under the European Recovery Programme is paid into the Consolidated Fund "below the line" to redeem public debt.

Grants in kind, the most important being free transfers of military equipment, are excluded entirely both from government receipts and from final expenditure on goods and services.

The current grants included here are, therefore:

a. Defence Aid from the United States under the Mutual Defence Assistance Agreement (M.D.A.), the Mutual Security Act (M.S.A.) and the Agricultural Trade Development and Assistance Act (United States Public Law 480), and from Canada under similar arrangements. This is the item described as Defence Aid in the balance of payments white paper (e.g. Cmd. 9585, item 16).

b. Grants deemed to have been received under the Benton and Moody amendments to the Mutual Security Act of 1951 and to the Economic Co-operation Act of 1948 (for descriptions see Cmd. 8776). This item is included in the balance of payments white paper as a current grant received by the Government (e.g. Cmd. 9585, item 12a).

The sums received are recorded after deducting the United States share of the sterling counterpart of the grants. The figures are the same as those used in the balance of payments white papers, where fuller details are given (e.g. Cmd. 9585, pages 39-42 and page 49).

It should be noted that receipts under the "Katz-Gaitskell" agreement, which are treated in the balance of payments white paper as current receipts by the government, are included in the Blue Book as receipts on capital account (in "net receipts from settlements, etc.", see page 206).

Current expenditure on goods and services

Current expenditure on goods and services relates only to the expenditure of non-trading branches (with the important exception of the administrative costs of the (former) Ministry of Food headquarters and of regional and local food offices—which are included here). It comprises: (a) payments for the services of employees working in non-trading branches of the government; (b) purchases of goods and services by non-trading branches of the government from other branches of the government⁽¹⁾, from other sectors of the economy and from abroad, other than purchases of fixed capital assets and of strategic stocks; (c) *less* sales of goods and services by non-trading branches of the government⁽²⁾ other than sales of fixed assets or strategic stocks. It excludes grants to other bodies to aid their current expenditure on goods and services—for example, current grants to local authorities. As explained on page 182, many transactions *between* non-trading branches of the government in respect of goods and services rendered disappear on consolidation, i.e. the purchase by one branch (included in (b) above) cancels out with the sale by another (in (c) above). But this is not always the case; thus the (imputed) rental payments to the Ministry of Works in respect of government-owned office accommodation and the payments (whether cash or imputed) to the Post Office for telephone and postal facilities do not disappear on consolidation.

Payments of pensions under the non-contributory schemes for civil servants are included as part of current expenditure on goods and services; so are the *contributions* to staff pensions paid by the Regional Hospital Boards. But payments of pensions by the government under the *contributory* schemes for teachers and National Health Service staffs, *less* the contributions received from employers⁽³⁾ and employees, are treated in the Blue Book as repayment of a liability; this therefore appears in the Central Government capital account (see page 209). The pensions schemes of the police (in this context, the Metropolitan Police and the Royal Ulster Constabulary) are contributory in that employees make a pension contribution. There are however no police pension funds (real or "imputed") and hence no identifiable employers' contributions; in the Blue Book the pensions paid to retired members of the police force, *less* employees' contributions, are included under current expenditure on goods and services.

Apart from the purchase and sale of "strategic" stocks, no adjustment is made to current expenditure on goods and services for changes in the holding of stores by non-trading branches of the government.

As far as possible, payments which merely represent the settling of claims, in particular those arising out of the war, are excluded, even though the

⁽¹⁾ Including imputed payments for services provided "free" by other branches of the Government (e.g. free postal facilities and stationery).

⁽²⁾ That is, sales treated as receipts for services rendered rather than as taxes on expenditure (see pages 189-190); imputed receipts for services rendered "free" to other branches of the Government are included.

⁽³⁾ Including Regional Hospital Boards.

claims are in respect of expenditure which would originally have been classed as current expenditure on goods and services. Such payments (so far as they relate to claimants in the United Kingdom) are in general relegated to the miscellaneous item in the government capital account (see page 210).

"Current" is distinguished from "capital" expenditure on goods and services in that the former does not create a "specific" asset. Some "current" expenditure may be of long-term benefit to the nation, not only from the standpoint of social welfare, as with expenditure on health services, but also from the economic standpoint of higher productivity, as with expenditure on technical education. Nevertheless, to the extent that the expenditure represents running costs and does not create a tangible fixed asset like a hospital or school, it is treated as current.

Only a summary analysis of expenditure is given here—between military defence, health services and other services. Fuller details of the consolidated expenditure of the Central Government and local authorities are given in the analysis by service of the expenditure of combined public authorities (Blue Book, 1955, Table 42, described in Chapter X). Chapter X (pages 248 to 269) describes the content of Central Government current expenditure on goods and services taking each service (finance and tax collection, police, and so on) in turn.

Subsidies

These are payments to a producer or trader having the effect of reducing selling prices below the factor costs of production, including the financing of losses on public trading services. The nature of subsidy payments, and the distinction between subsidies and current grants, is described on page 190. A fuller description of each class of Central Government subsidy will be found in Chapter X, pages 255 (housing), 261 (agriculture and food), 262 (fuel and power), 263 (transport and communication) and 265 (other industry and trade).

Current grants to persons

These are unrequited payments to persons, and to non-profit-making bodies serving persons, included in the income of the personal sector. Current grants to non-residents (i.e. national insurance benefits, chiefly pensions, and war pensions to recipients no longer residing in the United Kingdom) are excluded and treated as current grants paid abroad (see page 203). A fuller description will be found, service by service, in Chapter X, pages 248 (finance), 248 (legal aid), 252 (military defence), 256 (education and child care), 257 (school milk and welfare foods), 259 (national insurance, pensions and assistance), 261 (agriculture), 265 (other industry and trade), 266 (employment services) and 269 (other services).

National debt interest

The main element of this item consists of payments of debt interest charged to the Consolidated Fund⁽¹⁾, including interest paid to foreign governments but exclusive of interest on certain securities held within the Central Government as here defined (for example, government securities held by the National Insurance Funds). The latter payments within the government are excluded equally from revenue and expenditure.

(1) Both above and below the "the line"—see page 218.

The item "national debt interest" in the Blue Book should also include the interest element of the annuities paid by the Post Office in order to redeem its borrowing from the Post Office Savings Banks Fund. This has however been omitted in error from the figures in the Blue Books of 1955 and earlier years⁽¹⁾.

By contrast with the treatment of interest on government securities held by (say) the National Insurance Funds, interest on government securities held by the Post Office Savings Banks Fund and by the "Fund for the Banks for Savings" (both of which are here included within the scope of the term Central Government) is *not* excluded from the Blue Book item "national debt interest"⁽²⁾. This implies that interest credited to depositors in the Post Office Savings Bank and interest paid to the Trustees of Savings Banks (in respect of the money they invest through the "Fund for the Banks for Savings") are included in the item "national debt interest" to the extent that such interest is financed from interest on government securities held by the two Funds referred to. But the item "national debt interest" excludes that part of interest on Post Office Savings Bank deposits and on money invested by the Trustees of Savings Banks which may be regarded as being financed from interest on non-government securities held by the two Funds. For further information on the treatment of the savings banks' interest, see pages 198-199.

The debt interest charged to the Consolidated Fund (see previous page) includes as one of its components the interest *paid* on National Savings Certificates cashed. The interest *accruing* on National Savings Certificates during each year whether paid or unpaid is however substituted in computing the item "national debt interest" appearing in the Blue Book⁽³⁾.

Minor items included in "national debt interest" are (i) the interest element of the loan charges transferred to the Health Ministers when local authority hospitals were vested in the National Health Service; (ii) the interest on stock issued to finance Irish land purchase (paid by the Land Purchase (1891) Account and the Irish Land Purchase Fund). Interim income paid to former coal-owners is not included (see page 198, footnote⁽⁴⁾).

Current grants to local authorities

This comprises grants to local authorities, treated by them as current receipts, for all services other than trading services and housing (for which the payments are treated as subsidies). Grants not allocated to specific services are also included. Such non-specific grants consist mainly of "equalisation" grants but also include licence revenue collected and retained by the local authorities (mainly dog and gun licences—about £1 million a year) and payments from the Exchequer under the Tithe Act, 1936 (just under £1 million a year). "Precepts" received by the Metropolitan Police (treated here as a branch of the Central Government) from local authorities have been deducted. Table 40, Blue Book, 1955, gives an analysis of total

(1) The amounts omitted are £ million 5, 5, 5, 5, 6, 6, 7, 9, 11 in the years 1946-1954.

(2) So far as the government securities held by the Post Office Savings Banks Fund consist of loans to the Post Office (for financing capital expenditure) repayable by annuities, this sentence and the rest of the paragraph are statements of the position as it would be after correcting the error referred to in the preceding paragraph.

(3) This substitution is effected simply by adding to interest paid an amount representing the estimated increase in the government's liability for accrued interest.

current grants to local authorities between those not allocated to specific services and those allocated to various specific services (police, justice, civil defence, etc.). The figures derived from the *Appropriation Accounts* differ slightly from the corresponding figures derived from the accounts of local authorities, probably mainly because of differences of timing (see page 235); the former are used in the Blue Book.

Current grants paid abroad

The main elements are described in Chapter X, pages 249 (overseas services), 252 (military defence) and 259 (national insurance and pensions). The figures are the same as those used for the balance of payments white paper and may differ slightly for reasons of timing from those recorded in the government accounts. These grants are all recorded in the balance of payments white paper under "government debits" (e.g. Cmd. 9585, item 6) but some are there included under "military expenditure" (item 6a) or "administrative, diplomatic, etc." (item 6d).

Transfers to capital accounts

These items are unrequited payments regarded as paid into capital accounts of the recipients. Payments of interest on sums outstanding are included, e.g. the figures of war damage compensation paid by the War Damage Commission include the interest element of "value payments". Transfers abroad are however excluded; they appear as an item in the Central Government capital account. An analysis of Central Government capital transfers, *including* transfers abroad, between the different public services (finance, overseas services, military defence, etc.) is given for the years 1950 to 1954 in Table 42, Blue Book, 1955.

Post-war refunds of excess profits tax are shown after deduction of income tax⁽¹⁾; the figures are given in the Exchequer returns. Since payments of excess profits tax are treated as payments on current account, it might seem preferable to treat the refunds as current receipts by the taxpayer. The justification for the present treatment is that the refunds were conditional on their being used in developing or re-equipping the recipient's business (until the passage of the Finance Act, 1953, when only a small residue remained).

War gratuities and pay credits are the lump-sum payments made to Service personnel on demobilisation from the 1939-45 war.

War damage compensation covers:

- a. payments by the War Damage Commission in respect of claims under Part I of the War Damage Act, 1943, covering land and buildings;
- b. payments by the Board of Trade in respect of claims under Part II of the War Damage Act, 1943, covering business plant and equipment and private chattels, and in respect of claims under the Commodities War Risk Insurance Scheme;

(1) Payments of excess profits tax were allowed as a deduction from profits in assessments to income tax; correspondingly, the refunds are subject to tax. In the Blue Book the refunds are, for convenience, shown after deduction of income tax, and the tax recovered is not included in tax receipts.

c. payments by the Ministry of Transport in respect of claims under the Marine War Risks Insurance Scheme ;

d. payments by the Treasury under the War Damage (Public Utility Undertakings, etc.) Act, 1949 ;

e. payments by the Central Land Board in respect of compensation to owners of war damaged properties whose claims for war damage were reduced on account of the development value of the site, but who were prevented from realising this value through the operation of the Town and Country Planning Acts, 1947.

The figures are divided between payments to local authorities and payments to other sectors (persons, companies and public corporations).

Capital grants to local authorities cover all grants to local authorities treated by them as capital receipts, other than grants of war damage compensation. (See also page 240).

Other capital grants comprise the grants to persons, companies and public corporations listed service by service in Chapter X, pages 248 (finance), 252 (military defence), 253 (civil defence), 257 (education), 258 (health), 261 (agriculture), 263 (transport and communication), 265 (other industry and trade) and 269 (other services) (apart from post-war refunds of excess profits tax and war gratuities and pay credits—which appear separately in Table 37, Blue Book, 1955). Important examples are grants to universities towards the cost of buildings and equipment, and compensation to doctors for the loss of right to sell medical practices.

Surplus, before providing for depreciation and stock appreciation

This figure is the balance carried forward to the capital account. For the reasons given on page 193 it cannot be regarded as the Central Government's contribution to the saving of the nation without adjustment. The saving of Central Government on current account, defined in the same way as the saving of other sectors (and always before providing for depreciation and stock appreciation), is given by:

Central Government saving, 1954

	<i>£ million</i>
Surplus on revenue account	335
less Receipts of taxes on capital	—183
plus Transfer payments to capital accounts	85
Saving	237

THE CAPITAL ACCOUNT

It follows from the description of the revenue account (page 193) that, just as the latter is not a current account in quite the same sense as the current accounts for other sectors, so the Central Government capital account excludes certain transactions regarded as capital transactions from the point of view of the rest of the economy.

The capital account is set out as follows:

Capital account of Central Government including National Insurance Funds, 1954

£ million

<i>Receipts</i>		<i>Payments</i>	
Surplus from revenue account	335	Gross fixed capital formation:	
Capital transfers from abroad:		Trading bodies	104
Grants under the European Recovery Programme and gifts from abroad	—	Other	78
Sale of surplus war stores held abroad	—	Increases in value of stocks:	
Net receipts from settlements, etc.	34	Trading bodies	-166
Borrowing from foreign governments	—	Strategic stocks	46
Loan repayments by foreign governments	50	Less Sales of surplus war stores in the United Kingdom	-3
Net borrowing through National Savings	46	Capital transfers abroad	—
Increase in fiduciary issue	100	Loans to foreign governments	17
New issues and sales of securities (net):		Loan repayments to foreign governments	53
Long-term securities	-48	Increase in deposits with the International Monetary Fund and International Bank for Reconstruction and Development	40
Tax reserve certificates	103	Increase in foreign reserves	168
Other	82	Net lending to local authorities	256
Proceeds of iron and steel disposals:		Net lending to public corporations	99
Receipts of cash	65	Coal compensation:	
Government securities redeemed	14	Payments in cash	2
Miscellaneous financial receipts (net) and changes in cash balances	-52	Issues of stock	35
Total	729	Total	729

Source: Blue Book, 1955, Table 38

The transactions recorded in the capital account fall into three categories: (a) purchases of goods and services (fixed capital formation and increase in stocks); (b) capital transfers (only transfers received from, or paid to, abroad are shown; capital transfer payments at home are included in the revenue account, as explained on page 193); (c) the remaining transactions may all be regarded as transactions in financial assets and liabilities of various kinds.

In certain cases, there may be difficulty in distinguishing transactions in financial assets from transfer payments. The most appropriate criterion appears to be to regard as transactions in financial assets and liabilities only those transactions which give rise to, or cancel, a fairly *specific* asset or liability. Thus the payments of war damage compensation and post-war credits are regarded as transfers, because the obligation incurred by the government under the schemes was not sufficiently specific with respect to time of repayment to justify treating the payments as cancelling a liability.

On the other hand, the payment of coal compensation cancels a liability which can be regarded as specific.

The change in the total assets, physical and financial, of the Central Government can thus be derived from the capital account by taking the change in all items other than the opening "Surplus from revenue account" (£335 million in 1954), the group of receipts "Capital transfers from abroad" (£34 million in 1954) and the payments "Capital transfers abroad" (nil in 1954). This gives a net increase in assets in 1954 of £369 million, of which £59 million represents gross capital formation and £310 million the net increase in financial assets.

The calculation ignores changes in market valuation (except in the case of physical stocks where the figures relate to book values) and ignores depreciation of fixed assets.

Grants under the European Recovery Programme and gifts from abroad

The main item here is the grants (as distinct from loans) from the United States Government under the European Recovery Programme. As in the balance of payments white paper, for which the same figures are used, these grants are treated as capital receipts (see page 199). The receipts are included in full, repayments of a proportion of the sterling counterpart being treated as capital payments by the United Kingdom (see page 211). Gifts from the Australian and New Zealand governments in 1947 and 1949 are also included.

Sales of surplus war stores held abroad

These are receipts from the sale of surplus war stores (mainly stores held abroad) to non-residents, including as far as possible sales forming part of general post-war settlements of debts and claims. The estimates are based on returns from the departments concerned with the disposal of the stores. These receipts might have been treated as a change in stocks, like sales at home of surplus war stores. The receipts are treated instead as capital transfers because the sales in early post-war years were bound up in many cases with financial settlements.

Net receipts from settlements etc. (from abroad)

This is part of the item in the balance of payments white paper "Government credits, other than grants" (e.g. Cmd. 9585, item 12b). This item in the balance of payments white paper includes a variety of receipts, arising from Government operations abroad; in the early post-war years the main constituents were settlements of debts and claims arising from the war. From the figures in the balance of payments white paper are deducted certain items which are included elsewhere in the Blue Book tables, namely: (a) receipts from the sale of surplus war stores (see preceding paragraph); (b) receipts from sales to the United States and Canadian Forces in the United Kingdom; (c) off-shore sales for the British Forces; the two latter items are included in the Blue Book as current exports of goods and services. The remainder appears in the Blue Book under "net receipts from settlements, etc.". This item also includes receipts under the "Katz-Gaitskell" agreement which provided that part of the United Kingdom's gold and dollar payments to the European Payments Union should be refunded by the United States government.

Borrowing from foreign governments

The major items are:

- (i) drawings on the United States and Canadian lines of credit granted in 1945 and 1946;
- (ii) loans received from the United States under the European Recovery and Mutual Assistance Programmes;
- (iii) the South African gold loan (£80 million in 1948);
- (iv) the Indian and Pakistan loans (£176 million in 1948)⁽¹⁾.

Among the minor items included are the borrowing from the Belgian government in 1949 and 1950 under the Intra-European Payments Agreement and under the "Draper Plan" in 1952; adjustment in 1949 of the loan from Portugal after the revaluation of sterling. The statistics for this item are those used in the balance of payments white paper. The item comprises the element of borrowing by the United Kingdom government included in the balance of payments item "government lending or borrowing" together with the Indian and Pakistan loan (1948) and the Portuguese revaluation loan (in 1949).

Loan repayments by foreign governments

This represents repayment instalments of the loans and advances to foreign governments described on page 212, together with repayment of certain advances to allied governments made during the war of 1939-1945. The statistics used are from the balance of payments white paper. The item comprises the element of repayments to the United Kingdom government in the balance of payments item "repayment of government loans" together with repayments (in 1948 and 1949) of the advance of £100 million to Argentina under the Andes Agreement.

Net borrowing through National Savings

This comprises:

- (i) the net increase in deposits (including accrued interest) in the Post Office Savings Bank;
- (ii) the net increase (including accrued interest) in the amounts invested by the Ordinary Departments of the Trustee Savings Banks through the agency of the National Debt Commissioners;
- (iii) receipts from National Savings Certificates and Defence Bonds *less* repayments of principal;
- (iv) the increase in Exchequer liability for accrued interest on National Savings Certificates.

It should be noted that the figure here, representing net government borrowing through National Savings, differs from the figure of personal saving through National Savings (shown in Table 27 of Blue Book, 1955, and described on page 68). This is mainly because personal saving includes, while government borrowing through National Savings excludes:

- a. the net increase in deposits in the Special Investment Departments of the Trustee Savings Banks. These deposits are invested directly by the

⁽¹⁾ This loan was to be repaid by the United Kingdom government in the form of annuities to the Indian and Pakistan governments to enable the latter to meet their pension obligations in sterling; the loan is matched by an equal fall in sterling balances (appearing in Table 38, Blue Book, 1955, as a negative item in "New issues and sales of securities: Other" (see next page)).

Trustee Savings Banks (in part in government securities and in part in other securities e.g. loans to local authorities); they are not therefore directly re-lent to the government (unlike deposits in the Ordinary Departments which, apart from cash balances, etc., must be paid over to the National Debt Commissioners);

b. the increase in holdings of government securities on the Post Office Register other than Defence Bonds.

Item (b) appears however as part of "New issues and sales of securities (net): long-term securities"—see below.

Increase in fiduciary issue

The Issue Department of the Bank of England is treated as an agent of the Central Government; the value of any additional bank notes passed from the Issue Department to the Banking Department of the Bank of England, in exchange for securities, is thus treated as a form of Central Government borrowing. This item does not measure the change in the amount of notes in circulation because of changes in the reserve of notes held in the Banking Department of the Bank of England.

New issues and sales of securities (net)

Long-term securities: The item represents new issues and sales, *less* redemptions and purchases, of marketable securities (other than Treasury Bills). Transactions are recorded here in terms of the cash received or paid, and not in terms of the nominal values of the securities dealt in. Besides Exchequer new issues and redemptions, the figures include net sales of securities by funds managed by the National Debt Commissioners and other public departments (e.g. net sales by the National Insurance Funds); (they also include (as a negative component) the capital element of the loan charges transferred to the Health Ministers when local authority hospitals were vested in the National Health Service). The term "marketable securities" includes non-government securities (e.g. non-government stock held by the Post Office Savings Banks Fund). Issues of stock as compensation to former colliery-owners are included (see page 213); similarly, stock cancelled in connection with the return of the iron and steel industry to private ownership is deducted (see next page). But the liability for £244 millions of Iron and Steel Stock which was transferred from the Iron and Steel Corporation of Great Britain to the Exchequer on 13th July, 1953 (under the Iron and Steel Act, 1953) is not included in the figure of new issues and sales for the year 1953.

Tax reserve certificates: The figure represents receipts, *less* repayments, from the issue of tax reserve certificates as shown in the Exchequer accounts "below the line".

Other: This item comprises (a) the net increase in Treasury Bills held by bodies outside the government, (b) the net increase in Treasury Deposit Receipts held by the banks, (c) the net increase in Bank of England Ways and Means advances to the Exchequer, and (d) the net increase in amounts deposited with the Exchequer (through the National Debt Commissioners) by the Special Investment Departments of Trustee Savings Banks and by certain other savings banks. It includes (as a negative item) an amount of £176 million in 1948 representing the drawing on sterling balances (which were invested

in Treasury Bills) by the Indian and Pakistan governments to purchase annuities from the British government as part of the agreement of July, 1948 (see also page 207).

It should be observed that the item "new issues and sales of securities (net)" includes net borrowing both from residents and non-residents. This is one point in the Central Government's capital account at which borrowing from abroad cannot be separated from borrowing at home.

Proceeds of iron and steel disposals

The figures represent total receipts by the Iron and Steel Holding and Realisation Agency from the sale by the Agency of the assets of the iron and steel concerns to private owners; receipts are partly in cash and partly in the form of government securities (which are passed to the National Debt Commissioners for cancellation). Out of the cash receipts from such sales and out of the Agency's net revenue, the Agency (which is treated in the Blue Book as a public corporation) makes payments into the Iron and Steel Realisation Account (a fund administered by the Treasury). The excess of the Agency's cash receipts from sales and of its net revenue⁽¹⁾ over the Agency's payments into the Iron and Steel Realisation Account is treated in the Blue Book as lending to the Agency and therefore appears as part of the item "lending to public corporations" (page 213).

Miscellaneous financial receipts (net) and changes in cash balances

The figure under this heading is essentially the residual item in the table and therefore reflects any errors and omissions in other items in the Central Government accounts as presented in the Blue Book. Adjustments to any of the figures in the Blue Book tables, made in order to put the statistics on the same accounting basis as that used for other sectors of the economy, are also reflected in the residual item (see particularly adjustments to conform with balance of payments—page 222). The following specific elements are included in the item:

a. *Borrowing from certain pension "funds"*. This represents (i) receipts of pension contributions (from employers and employees) in respect of pensions for school teachers and National Health Service staffs, less pensions actually paid to retired employees; and (ii) the excess of the provision for pensions charged as a current cost in the Post Office *Commercial Accounts* over the pensions and gratuities actually paid to retired Post Office employees. In none of these cases is a separate pension fund maintained, though the actuarial state of "imputed" funds is examined from time to time⁽²⁾. When such an actuarial examination is carried out, account is taken of the imputed interest on the balances of funds; in the Blue Book treatment this interest is ignored. (See also page 200.)

b. The face value of *new coin* issued by the Mint less the face value of coin withdrawn by the Mint from circulation. This has been treated in the Blue Book as a form of government borrowing similar to an increase

⁽¹⁾ In the context of this sentence the net revenue is taken to equal the payments from the Iron and Steel Realisation Account to the Exchequer (which appear as a component of "Interest and dividends, etc."—page 198, item (ii) f).

⁽²⁾ The Government Actuary's Reports on Teachers' Pensions are published as House of Commons papers.

in the fiduciary issue, rather than as an item (representing sales *less* purchases) in the Mint's operating account; the latter treatment is the one adopted in the Mint's published trading accounts.

c. *Miscellaneous* capital receipts (e.g. gifts to the Exchequer).

The following items are deductions:

d. *Net lending* other than lending to overseas governments, local authorities, public corporations, etc., shown separately in the Blue Book capital account. Lending to industry, commerce and agriculture both at home and abroad is included here.

e. The increase in *debtors* (and payments in advance), *less* the increase in *creditors* (and provisions), so far as recorded in the accounts which are the basis of the Blue Book tables. The change in government trading bodies' debtors and creditors is the principal element here.

f. The *settlement of certain claims* not shown elsewhere, principally claims arising out of the war (see pages 200-201).

g. Purchases (*less* sales) of *silver*, which appear in a separate Vote within Supply Services. Silver is here regarded as a financial asset⁽¹⁾.

h. The increase in the *cash* balances held by the various components of the Central Government as here defined (the Exchequer, departments, etc.) at the Bank of England, Bank of Ireland and commercial banks. Balances held by departments with the Paymaster General and re-lent by him to the Exchequer disappear on consolidation.

Certain other factors, such as departmental payments charged temporarily to Suspense Accounts (rather than to the appropriation accounts) and payable orders issued before the end of the year but not presented for payment until after the end of the year, are also reflected in this residual item of the Blue Book capital account.

Gross fixed capital formation

The definition of fixed capital asset in the government sector follows so far as possible the definition applied in the private sector except in the case of the Service departments. Expenditure of *trading bodies* covers capital expenditure in respect of the trading activities listed in Annex 1 of this chapter (page 223). The principal items are capital expenditure by the Post Office (which includes expenditure on renewals of certain assets, such as motor vehicles, charged to revenue in the Post Office trading accounts), capital expenditure on civil aerodromes and on prefabricated houses and government-financed capital expenditure in manufacturing industry (that is, expenditure in Royal Ordnance Factories, the building of factories in Development Areas for leasing to private industry, and capital assistance to private firms engaged on defence contracts by the leasing of plant and equipment⁽²⁾). Further details are given in Chapter X, pages 251 (military defence), 254 (housing), 260 (agriculture), 263 (transport and communication) and 264 (other industry and trade).

⁽¹⁾ Silver is currently being accumulated to meet the government's obligation to return to the United States government the silver bullion transferred to this country under Lend-Lease arrangements.

⁽²⁾ For a fuller description of "government-financed expenditure in manufacturing industry" see page 301. On page 251 reference is made to the erroneous omission from the Blue Book, 1955, of capital expenditure on certain imported machine tools.

Capital expenditure in respect of *non-trading* activities relates principally to buildings and equipment for research and development⁽¹⁾ and for civil defence, hospitals, trunk roads, offices and other public buildings. It includes certain capital expenditure incurred by the Service departments but this is confined to the purchase of land and the building of permanent married quarters at home; other expenditure by the Service departments which might be regarded as capital expenditure if it had been incurred in the private sectors, such as building of aerodromes or military establishments or the purchase of vehicles, is treated as current expenditure on goods and services. (See also page 284.) Further details of non-trading capital expenditure, taking each of the government services in turn is given in Chapter X, pages 248 (police), 248 (prisons), 251 (military defence), 253 (civil defence), 258 (health), 260 (agriculture), 264 (other industry and trade), 266 (roads) and 269 (other services).

A deduction is made for sales of goods previously acquired by the government where the original acquisition would be treated as capital expenditure (e.g. sales of machine tools by the Ministry of Supply). Fixed capital expenditure does not include the acquisition of the coal mines, the Bank of England, Cable and Wireless Ltd., or other going concerns. Nor does it include capital grants or loans to other sectors.

Increase in value of stocks

The figures for *trading bodies* refer to bodies listed in Annex 1 (page 223). They do not take account of the disposal of stocks by the Board of Trade to the Raw Cotton Commission (£53 million in 1947). The disposal of stocks by the United Kingdom-Dominions Wool Disposals Ltd. from 1946 to 1951 is included. The figures are changes in book value, and thus include stock appreciation.

Strategic stocks are those held under the programme for procuring strategic reserves of food and raw materials. The costs have been borne on the Votes of the former Ministry of Food (now the Ministry of Agriculture, Fisheries and Food), the Ministry of Supply, the Board of Trade and the former Ministry of Materials. The figures represent the cost of purchases, less receipts from sales. Handling costs and other expenses incidental to the storage of strategic stocks are included in current expenditure.

Sales of surplus war stores in the United Kingdom are sales at home (and in principle, any sales abroad to residents of the United Kingdom) of surplus war stores, the original purchase of which would have been classed as current expenditure on the definitions used in this book. Hence it includes sales of equipment of the fighting services. Sales of fixed assets are excluded (see above).

Capital transfers abroad

These cover payments to the United States government of a proportion of the sterling counterpart of aid received under the European Recovery Programme; grants to European countries under the Intra-European Payments Agreement and the European Payments Union; and revaluation payments made by the United Kingdom on the revaluation of sterling in 1949. Balance of payments statistics are used for this item.

⁽¹⁾ Including buildings and equipment for the United Kingdom Atomic Energy Authority.

Loans to foreign governments

Loans and advances to foreign governments include :

- (i) the cost of the United Kingdom share of relief imports into Germany at the end of the war ;
- (ii) the advance of £100 million to Argentina in 1948 under the Andes Agreement ;
- (iii) the loan of £22 million in 1951 to enable Denmark to buy back kroner accumulated in London before the start of the European Payments Union ;
- (iv) loans to Colonial governments ;
- (v) certain advances to foreign governments made by the Export Credits Guarantee Department of the Board of Trade for the purpose of financing foreign trade and rendering economic assistance (these advances take the form of purchases of " securities " under the Export Guarantees Act, 1949).

Balance of payments statistics are used for this item. The item comprises the element of lending by the United Kingdom government included in the balance of payments item " government lending or borrowing " together with the advance of £100 million to Argentina (in 1948) under the Andes Agreement.

Loan repayments to foreign governments

This represents repayment instalments of the loans from foreign governments described on page 207 and of certain war-time loans, and payments under the Lend-Lease Settlement of 1945. The war-time loans referred to are, principally, the loan from the Reconstruction Finance Corporation, the Canadian and Newfoundland interest-free loans, and loans from colonial governments of the amounts raised on local savings certificates, bonds, etc. The statistics used are the same as those used in the balance of payments white paper. The item comprises the element of repayment by the United Kingdom government in the balance of payments item " repayment of government loans " together with repayments to foreign governments of loans expressed in sterling or sterling area currencies.

Increase in deposits with the International Monetary Fund and International Bank for Reconstruction and Development

This represents the amount of the subscription, including the extra subscription paid on revaluation in 1949, less the net increase in the amounts re-lent to H.M. Government and held in London in the form of interest free notes.

Increase in foreign reserves

This is the change in the official holdings of gold, dollars and other foreign currencies plus the change in the balance of credit outstanding between the United Kingdom and the European Payments Union.

Net lending to local authorities

Advances (less repayments) from the Local Loans Fund to local authorities (through the agency of the Public Works Loan Board). The figures include the Local Loans Fund's purchases (less sales) of certain new securities issued by local authorities in order to redeem their existing securities.

Net lending to public corporations

These are advances (*less* repayments) to the bodies listed as public corporations in Chapter VII. Most of this lending appears in the first instance as issues (and repayments) "below the line" in the Exchequer accounts; such issues are however paid into special accounts and funds administered by the government departments concerned, and it is from such accounts that the actual lending to the public corporations occurs. The principal recipients are the National Coal Board, the Raw Cotton Commission, the housing and new town corporations and the Colonial Development Corporation. On the vesting of certain undertakings as public corporations (principally the National Coal Board and the Raw Cotton Commission) there appeared in their opening balance sheets a liability towards the Central Government. The lending by the Central Government corresponding to these initial liabilities is not reflected in the item "net lending to public corporations", but repayments of these liabilities by the public corporations to the government are reflected in the item. In particular the capital element of the annuities by which the National Coal Board is repaying its initial liability to the government⁽¹⁾ is deducted in arriving at the figures of net lending to public corporations. The increases in the amounts deposited by the National Coal Board with the Exchequer as Ways and Means advances have also been deducted. The item "net lending to public corporations" also includes amounts regarded in the Blue Book as being lent to the Iron and Steel Holding and Realisation Agency (see page 209).

Coal compensation

Payments in cash cover payments to colliery concerns to cover development expenditure incurred by them between 1st August, 1945 and the vesting date for coal nationalisation (1st January, 1947), and compensation for certain assets transferred to the National Coal Board which was satisfied by money payments; these latter assets comprised chiefly stocks of colliery products and consumable and spare stores taken over by the Board on 1st January, 1947, and colliery-owned main line railway wagons.

Issues of stock in satisfaction of compensation for collieries etc. vested in the National Coal Board are included here and are matched by an equivalent amount in the receipts item "new issues and sales of securities: long-term securities" (see page 208)⁽²⁾.

THE REVENUE ACCOUNT OF THE NATIONAL INSURANCE FUNDS

This account, given in Table 39 of the Blue Book, 1955, shows the current revenue and expenditure of the National Insurance and Industrial Injuries Funds since their establishment on 5th July, 1948; for earlier periods, comparable figures are given in respect of the separate schemes superseded in 1948—the Unemployment Fund, the various National Health Insurance Funds and the Contributory Pensions Funds.

The *revenue* is divided between contributions from employers, contributions from insured persons, the contribution from the Exchequer (received through

(1) In respect of amounts paid by the government (in securities and cash) as compensation to former coal-owners.

(2) The figures in the Blue Book, 1955, refer to the *nominal* value of stock issued and not to the market value (i.e. compensation represented). The latter basis of measurement would be more consistent with the treatment of transactions in securities adopted elsewhere (see page 208).

the Ministry of Pensions and National Insurance) and investment income. The *expenditure* is divided between current expenditure on goods and services (now entirely the costs of administration), expenditure on benefits (current grants to persons) and the contribution made by the National Insurance Funds towards the cost of the National Health Service (paid to the health departments).

When the accounts of the National Insurance Funds are consolidated with the accounts of other bodies included within the Central Government (as in Table 37), the contributions received by the Funds from the Ministry of Pensions and National Insurance, and the contributions paid by the Funds to the health departments, become internal transfers and are eliminated. The investment income of the National Insurance Funds is also eliminated to the extent that it consists of national debt interest.

Details are shown in the Blue Book for each main category of revenue and expenditure; these are mainly self-explanatory. Current expenditure on goods and services for the insurance medical service consists of payments to doctors and purchases of drugs, etc., under the national health insurance "panel" scheme before the introduction of the National Health Service (the figure for 1948 thus relates only to the first half of the year). Unemployment benefit includes "extended" unemployment benefit (Section 62 of the National Insurance Act, 1946), for which a specific grant was made by the Ministry of Pensions and National Insurance to the National Insurance Funds; this benefit ceased in 1953. Figures of benefits in Table 39, Blue Book, 1955, include small amounts paid to non-residents which appear under "current grants paid abroad" in Table 37.

The calendar year figures are derived from quarterly returns which are on the same basis as the accounts of the National Insurance Funds for financial years published as House of Commons papers.

5. GENERAL DESCRIPTION OF STATISTICAL SOURCES

Nearly all the basic material used for the analysis of Central Government transactions is to be found in published sources, but few of the figures in the Blue Book tables are directly identifiable in these sources. The Blue Book tables represent a fairly elaborate process first of consolidation, so as to eliminate many classes of internal transaction, then of rearrangement, so as to display the statistics in a manner regarded as useful for economic analysis and so far as possible in uniformity with the presentation of the transactions of the rest of the economy.

Moreover, almost all the detailed accounts in published sources relate to the government's financial year, ending 31st March, not to the calendar year. The only general information available for shorter periods is the weekly summary statistics of Exchequer receipts and issues, which are inappropriate for national income accounts. In addition, most of the published accounts for the latest year are not available when the Blue Book is prepared. The discussion below is generally confined to a description of published sources, from which the general method of analysis will be most easily appreciated. It will be understood, however, that many of the calendar year figures in the Blue Book are derived from special quarterly returns made by departments, or, in some cases, by interpolation between financial year

figures. Furthermore some of the figures for the latest year shown are based on advance estimates⁽¹⁾ of expenditure actually incurred, and are therefore provisional.

THE EXCHEQUER ACCOUNTS

Because of their central importance, it is worth describing the Exchequer accounts, which are published in the *Finance Accounts*, in some detail. These accounts show on the one side receipts (from revenue, interest, borrowing, repayments of sums lent by the Exchequer, etc.) and on the other side payments (in respect of issues to finance departmental expenditure, debt interest, redemption of debt, lending, etc.). The balancing items in the account are the opening and closing bank balances in the Bank of England and Bank of Ireland. The receipts side of the account and the expenditure side of the account are each divided between items "above the line" and items "below the line". Receipts above the line are classified as "ordinary revenue" or "self-balancing revenue", and there is a similar division of expenditure (i.e. "issues") above the line. The allocation of items above and below "the line" has a statutory basis in Section 4 of the Sinking Fund Act, 1875. The arrangement of the account is shown below.

Exchequer receipts and issues, 1954-55

£ million

Receipts		Issues	
Ordinary revenue	4,738	Ordinary expenditure	4,305
Self-balancing revenue	249	Self-balancing expenditure	249
Receipts "below the line"	44,280	Issues "below the line"	44,713
Exchequer opening bank balances	3	Exchequer closing bank balances	3
Total	49,270	Total	49,270

Source: Finance Accounts, 1954-55

Ordinary revenue

This consists of:

- (i) Payments into the Exchequer by the departments concerned of *taxes* collected. Because of the interval of time between the payment of a tax by the taxpayer and the handing over of this money by the revenue department to the Exchequer, the amounts of tax revenue recorded in the Exchequer accounts will usually differ from the amounts collected by the revenue departments; it is the latter which are shown in the Blue Book accounts.
- (ii) The excess (if any) of payments into the Exchequer of Post Office revenue receipts *over* issues by the Exchequer to the Post Office to finance Post Office cash expenditure. In the Blue Book the Post Office is treated as a trading body.

⁽¹⁾ The word "estimates" used here does not refer to the *Estimates* published before the opening of the financial year. It refers to information supplied by departments at or near the end of the financial year to which the figures refer.

- (iii) Payments into the Exchequer of broadcasting licence fees collected by the Post Office⁽¹⁾.
- (iv) "Receipts from sundry loans"; this comprises interest on, and repayments of, certain loans to overseas governments, etc., together with dividends on certain shares held by Her Majesty's Government.
- (v) "Miscellaneous receipts". This covers a wide variety of receipts, in some cases paid directly from outside the Central Government (as here defined) to the Exchequer and in other cases paid by departments into the Exchequer. Apart from the receipts of taxes, etc. by the revenue departments, departmental receipts are of two classes: (a) those which (within limits laid down in the *Estimates*) may be appropriated in aid of expenditure and (b) the remainder which must, in due course, be paid over to the Exchequer. It is the payments of class (b) which are shown in the Exchequer accounts under "miscellaneous receipts". These departmental payments to the Exchequer are however internal transactions from the point of view of the consolidated accounts shown in the Blue Book, and (where possible) the Blue Book analysis takes account of the receipts by departments from the rest of the economy rather than the Exchequer receipts. This is referred to on page 220.

Self-balancing revenue

This equals the *per contra* item in the Exchequer accounts "self-balancing expenditure". The main component is the part of Post Office revenue receipts paid into the Exchequer which can be set off against the amounts issued by the Exchequer to the Post Office to finance the latter's cash expenditure.

Receipts below the line

These comprise:

- (i) Receipts applicable by statute to debt interest that would otherwise be paid out of revenue. These consist of interest on loans which were originally recorded under "issues below the line" (see page 218, item (iv))⁽²⁾. In many cases this interest is paid out of funds (such as the Local Loans Fund) which are here treated as part of the Central Government. On consolidation of the accounts of these funds with the Exchequer accounts, such internal interest receipts and payments disappear; in place of the interest received by the Exchequer from (say) the Local Loans Fund (which appears in the Exchequer accounts), there appears in the Blue Book accounts the interest received by the Local Loans Fund from local authorities (page 197, item (i)).
- (ii) Receipts from borrowing, e.g. issues of Treasury Bills, National Savings Certificates, Defence Bonds, government stock, Tax Reserve Certificates, borrowing from overseas governments and borrowing on the

⁽¹⁾ In the Blue Book, only the excess of licence fees over payments to the British Broadcasting Corporation for its Home Services is regarded as Central Government revenue (see page 195, item (v) f).

⁽²⁾ There is also included the interest element of the annuities by which the housing departments and the defence departments are repaying the amounts issued by the Exchequer for the construction of temporary houses and armed forces married quarters respectively. In the Blue Book the whole of the annuities (both capital and interest portions) are treated as part of gross rental income (see page 197).

credit of Ways and Means. So far as this borrowing is from sources outside the government (as here defined), it appears under the appropriate items in the Blue Book capital account. But Exchequer borrowing from other government bodies (e.g. stock issues subscribed to by the National Insurance Funds, or advances by the Post Office Savings Bank to finance Post Office capital expenditure) disappears on consolidating the accounts of the Exchequer with the accounts of these other bodies.

- (iii) Repayments of loans and advances which were originally recorded under "issues below the line"; such loans and advances are described on page 218, item (iv)(1).
- (iv) Certain other receipts payable directly to the Exchequer and applicable to debt redemption. Examples are (i) receipts of aid under the European Recovery Programme (see page 199); (ii) the proceeds of sales of iron and steel companies by the Iron and Steel Holding and Realisation Agency are transferred out of the Iron and Steel Realisation Account to the Consolidated Fund (see page 209).

Ordinary expenditure

This is divided between "Consolidated Fund Services" and "Supply Services". Although all Exchequer payments come from the Consolidated Fund, the "Consolidated Fund Services" are so distinguished because they have been authorised once and for all by statute as permanent charges on the Fund; Supply Services, on the other hand, are provided for by annual Votes by Parliament.

Consolidated Fund Services

These consist of:

- (i) Interest on the National Debt *less* the amount thereof which is shown "below the line" (see page 218, item (i)).
- (ii) The cost of management of the National Debt including cash payments made on conversion of stock. The cash payments on conversion are treated in the Blue Book as capital grants (page 248); the rest of this item is part of "current expenditure on goods and services" in the Blue Book.
- (iii) *Issues to Sinking Funds.* The Sinking Funds are administered by the National Debt Commissioners. The amounts received by way of Exchequer issues are applied in purchase and cancellation of government securities. In the Blue Book the amounts paid for such securities are reflected in the capital account item "new issues and sales of securities (net): long-term securities". The actual Exchequer issues to the Sinking Funds are of course internal transactions of the government (as here defined) and disappear on consolidation.

(1) There is also included the capital element of the annuities by which the housing departments and defence departments are repaying the amounts issued by the Exchequer for the construction of temporary houses and Armed Forces' married quarters respectively (treated in the Blue Book as part of gross rental income—see page 197); also the capital element of the annuities by which the National Coal Board is repaying to the Exchequer the amounts issued (in securities and cash) as compensation to coal-owners (treated in the Blue Book as repayments of lending to public corporations—see page 213).

- (iv) Payments to the Northern Ireland Exchequer; these disappear when the account of the Northern Ireland Exchequer is consolidated with the accounts of the United Kingdom Government.
- (v) "Other Consolidated Fund Services" (principally issues on account of the Civil List, salaries and pensions of judges and certain other officers, and Exchequer contributions to the Irish Land Purchase Fund).

Issues for Supply Services are the Exchequer issues to the defence departments, civil departments and revenue departments (other than the part of the issues to the Post Office which can be set against Exchequer receipts from Post Office revenue). It is from these issues that departments finance their expenditure, both current expenditure (on goods and services and transfers, etc.) and capital payments (such as expenditure on fixed assets⁽¹⁾ and lending). When the departmental accounts are consolidated with those of the Exchequer, the Exchequer issues disappear, and the Blue Book tables show payments made by departments to the public rather than the Exchequer issues to the departments shown in the Exchequer accounts.

Self-balancing expenditure

See "Self-balancing revenue" (page 216).

Issues below the line

These are principally payments for which the Treasury has specific statutory power to borrow, and consist of:

- (i) The part of National debt interest which can be set off against interest received by the Exchequer below the line. It is therefore equal to the item (i) on page 216. The distinction between national debt interest paid above the line and that paid below the line is not relevant to national income analysis.
- (ii) Issues to redeem debt. This is redemption of the borrowing described on page 216, item (ii).
- (iii) Issues to finance certain capital expenditure on fixed assets (mainly Post Office capital expenditure, and the construction of temporary houses and Armed Forces' married quarters).
- (iv) Issues to finance lending. The principal bodies to whom money is lent by means of below-the-line issues are local authorities, public corporations, in certain cases to overseas governments and international organisations, and certain bodies and funds here treated as within the scope of the Central Government (e.g. the Northern Ireland Exchequer, the Civil Contingencies Fund and the Exchange Equalisation Account⁽²⁾). Lending to bodies and funds within the scope of the Government disappears on consolidation of the accounts of the whole Central Government. Even where the lending is to bodies outside the

⁽¹⁾ Part of the Post Office's expenditure on fixed assets and some other fixed capital expenditure is however financed from issues below the line (see item (iii) below).

⁽²⁾ Cash issued as compensation to former coal-owners on vesting of the coalmines in the National Coal Board also appears in this class of below-the-line issues. Repayments to the Consolidated Fund (which cover both the cash compensation and the compensation stock) take the form of annuities paid by the National Coal Board (via the Coal Nationalisation Act, 1946, Account) to the Exchequer (see footnote to page 217).

government, the transactions are in many cases routed through separate government-administered funds (e.g. the Local Loans Fund). The issues to such funds shown in the Exchequer accounts disappear on consolidation and are replaced in the Blue Book presentation by the actual payments from these funds to the rest of the economy (e.g. the amounts advanced from the Local Loans Fund to local authorities).

- (v) Issues to finance certain transfers, principally (a) war damage compensation, (b) excess profits tax post-war refunds and (c) post-war credits to persons. In the Blue Book, the first two of these are treated as capital transfers (see page 203) and the last as a current grant to persons⁽¹⁾.

Three important points emerge from this description of the Exchequer accounts. Firstly, a substantial proportion of the transactions are internal transactions disappearing on consolidation. As a result the issues to, and receipts from, departments (and special funds) as shown in the Exchequer accounts are replaced in the Blue Book by departmental payments to the public and departmental receipts from the public. Secondly "the line" in the Exchequer accounts does not approximate to the distinction between the revenue and capital accounts in the Blue Book. For example, some part of debt interest appears "above the line" and some "below the line". The same is true of interest received. Again issues for expenditure on fixed assets and on loans appear "above the line" if they are included among Supply issues to departments and "below the line" if, by statute, they are paid directly from the Consolidated Fund. The third point is a consequence of the first two; namely, the surplus shown in the Exchequer accounts (that is, the excess of ordinary revenue over ordinary expenditure) differs in several respects from the surplus shown in the revenue account of the Central Government in the Blue Book and from the government's contribution to national saving.

SUPPLY SERVICES

The principal accounts of departmental expenditure are the *Estimates* published in the February or March preceding the financial year to which they refer⁽²⁾ and the *Appropriation Accounts* which show expenditure actually incurred. The *Estimates* and *Appropriation Accounts* are divided into (at present) 15 classes (namely Army, Navy, Air Force, Ministry of Defence, ten "civil" classes and the revenue departments⁽³⁾). The classes are further divided into Votes, each of which relates to the whole, or part, of a single department's expenditure. The expenditure of the larger departments is divided into several Votes (e.g. eleven Votes for the War Office); for other departments, one Vote covers the whole expenditure (e.g. there is one Vote for the Inland Revenue). To a certain extent, each Vote brings together the expenditure connected with a particular *object* or purpose. For instance,

⁽¹⁾ The issues for war damage compensation are paid into special accounts administered by the departments concerned (see Annex 3, items 36 to 41). It is from these accounts that compensation payments to the public are made.

⁽²⁾ Where Parliament is asked to vote additional money to that shown in the original *Estimate*, a *Supplementary Estimate* is published later.

⁽³⁾ Namely Customs and Excise, Inland Revenue and Post Office.

there is one Vote for the general services provided by the Board of Trade, there is a separate Vote for Board of Trade expenditure on strategic reserves, and another for Board of Trade services in Development Areas. These objects or purposes have some relation to the classification by purpose or service used in the Blue Book—see Chapter X. In some cases, however, a single Vote may cover a number of services (e.g. the Vote for the Scottish Home Department covers a range of services for each of which there is a separate Vote in the accounts of the departments administering the same services in England and Wales).

Each Vote is subdivided by sub-heads. A large proportion of sub-heads show the *subject*, or economic nature, of the expenditure—such as salaries and wages; fuel and light; purchase of machinery; contributions in lieu of rates. This sub-division by sub-heads enables the greater part of expenditure to be classified into the economic categories of expenditure used in the Blue Book. The classification of sub-heads from this point of view was improved in 1951-52; on the recommendation of the Crick Committee on the Form of Government Accounts⁽¹⁾, the Treasury ordered the use of separate sub-heads to distinguish capital from current expenditure, and loans from grants (a distinction sometimes but not always made before). But in a considerable number of cases, sub-heads must be further divided to provide the economic analysis required. The *Appropriation Accounts* do not sub-divide expenditure beyond sub-heads, but the *Estimates* normally give more detail.

Besides showing departmental payments, the *Estimates* and *Appropriation Accounts* show departmental receipts other than "revenue" receipts (i.e. other than receipts of taxes and of Post Office revenue, both of which are paid over to the Exchequer)⁽²⁾. Such departmental receipts are of two classes: (a) those which, up to limits laid down in the *Estimates*, may be appropriated in aid of departmental expenditure; and (b) the rest which must (in due course) be paid over to the Exchequer ("Exchequer Extra Receipts"). The *Estimate* and *Appropriation Account* for each Vote shows these receipts in some detail and this enables them to be classified by their economic category, e.g., interest on loans, sales of fixed assets (to be deducted from gross fixed capital formation), rental income. For the national income analysis, the distinction between the two classes (a) and (b) above is not relevant.

To complete the picture of Supply Service transactions it is necessary to refer to the *Finance Accounts* which show in summary form the Exchequer issues for Supply Services and (under "miscellaneous receipts"—see page 216, item (vi)) the departmental payments referred to in the preceding paragraph as "Exchequer Extra Receipts". These are however transactions within the government and they disappear on consolidating the Exchequer accounts with the accounts of Supply Services.

The principal task in the analysis of Supply Services is therefore to sort out payments and receipts (both appropriations-in-aid and receipts payable to the Exchequer) into the economic categories used in the Blue Book. Payments and receipts which disappear on consolidation of Supply Services

⁽¹⁾ Final Report of the Committee on the Form of Government Accounts, 1950. Cmd. 7969.

⁽²⁾ It should be noted however that in some cases expenditure sub-heads are shown "net" (i.e. after deducting corresponding receipts). This is the case with some trading services.

with the accounts of the rest of the Central Government are ignored, e.g., grants to Regional Hospital Boards and the National Insurance Funds (see page 181); in place of these grants shown in the *Appropriation Accounts*, the Blue Book tables show, by virtue of the process of consolidation, the full expenditure and income (other than grants) of grant-aided bodies and funds.

The *Estimates* and *Appropriation Accounts* for Supply Services of the Northern Ireland Government follow the pattern of those for the United Kingdom Government and their analysis is similar.

A special analysis has to be made in the case of trading services, for which the *Appropriation Accounts* show only cash payments and cash receipts (in some cases a "net" figure is shown—either net cash surplus or net cash payment). From the *Trading Accounts and Balance Sheets* and the *Post Office Commercial Accounts* (and similar quarterly accounts) is derived a trading analysis whose general form is illustrated by the following example⁽¹⁾.

Post Office trading (excluding Post Office Savings Bank), 1954-55

£ million

Cash receipts less payments	4.4	Gross trading income ⁽¹⁾	46.9
		Post Office surplus	5.1
		Services received from other branches of the government without payment	9.4
		less Services rendered to other branches of the government without payment	-20.0
		less Gross fixed capital formation ⁽²⁾	-13.5
		less Increase in value of stocks	-0.9
		Pension liability less pension payments	5.9
		less Annuities to redeem borrowing from Post Office Savings Banks Fund:	
		Interest	-11.2
		Capital	-17.4
		Increase in creditors less debtors, etc.	0.1
Total	4.4	Total	4.4

Source: Post Office Commercial Accounts, 1954-55, page 50.

⁽¹⁾ Interest on capital and provision for depreciation only.

⁽²⁾ Excluding renewals of certain assets (such as vehicles) charged directly to revenue. In the Blue Book an addition to gross fixed capital formation and an equal addition to gross trading income is made in respect of such renewals.

⁽³⁾ Where trading accounts are not published such accounts are constructed on the basis of the *Appropriation Accounts* and information supplied by departments.

For some trading activities, items (such as subsidies and gross rental income) not appearing in the example above also enter the analysis. In place of cash receipts *less* payments shown on the left hand side of the above account, the Blue Book accounts substitute the several items shown on the right-hand side of the account⁽¹⁾.

OTHER BODIES, FUNDS AND ACCOUNTS

Besides the Exchequer accounts and the accounts of the Supply Services, the accounts of the various bodies and funds referred to on pages 179-180 are subjected to the same processes of consolidation and classification of transactions by economic categories. The internal transactions which disappear on consolidation of the whole of the Central Government accounts—such as grants and loans from Supply Votes or from the Exchequer—are ignored. The principal published accounts are listed in Annex 3, but there are many others of lesser importance. In principle the Blue Book accounts, which aim to show transactions between the Central Government (as here defined) and the public, should incorporate all the accounts of what may be described as peripheral bodies or funds. But in practice the Blue Book analysis is based in some of the less important cases on the transactions between the Exchequer, or Supply Votes, and these peripheral bodies and funds (instead of on the latter's transactions with the rest of the economy).

At one point data other than from the government's own accounts is employed. For certain overseas transactions (namely, current grants from overseas governments, current grants paid abroad, capital transfers from and to abroad, lending to, and borrowing from, foreign governments and international organisations and changes in foreign reserves) the same data are used as for the balance of payments white paper. This secures consistency in the estimates of overseas transactions, especially overseas investment, between the Blue Book and the balance of payments white paper; but the corresponding figures, as recorded in the Central Government accounts, sometimes differ (because of difference in the time of recording etc.) from those used for balance of payments purposes. This difference is reflected in the miscellaneous item in the Central Government capital account (page 209).

RELIABILITY

The reliability of the basic data used for the compilation of the Central Government accounts—nearly all of which are comprehensive and mutually consistent accounting data—is clearly good. In most cases, the reliability of the statistics in the Blue Book is equally good, because the Blue Book tables are no more than a reclassification of the items shown in the basic accounting data. The uncertainty arises over certain estimated items, such as imputed rents, and—more important—the transposition of the figures from a financial year to a calendar year basis, which is not always exact, even when data for shorter periods than the year are available. Moreover, figures for the most recent year shown are subject to revision when detailed accounts become available. The expenditure figures for years before 1950 are derived from a less thorough examination of the basic material than that carried out for later years.

⁽¹⁾ The items for free services rendered (*less* received) appear in the Blue Book as current expenditure on goods and services.

ANNEX 1

GOVERNMENT TRADING ACTIVITIES

The full list of Government trading bodies, as defined on pages 184 to 188 is given below. Footnote (1) denotes those bodies for which commercial accounts are published annually in *Trading Accounts and Balance Sheets*. For other trading activities, commercial accounts are published separately as noted below, or are estimated from the *Appropriation Accounts* and from information from the departments concerned. Except where otherwise stated, the trading surpluses or deficits are included in gross trading income of Central Government.

Ministry of Agriculture, Fisheries and Food and Department of Agriculture for Scotland

Trading in foods (formerly Ministry of Food)(1). The trading loss of the Ministry, before charging administrative overheads and the cost of milk and welfare food schemes, is treated in the Blue Book as a subsidy.

British Wool Section (to 30th April, 1951)(1).

County Agricultural Executive Committees(1): Pool labour services, agricultural machinery operations, land drainage and water supply operations, pest destruction and farming of land. The net deficits on trading have been treated as subsidies.

Farming and management of land by the Agricultural Land Commission (accounts published as House of Commons papers).

Crown Lands (accounts published as House of Commons papers). The income is included under "gross rental income".

Forestry Commission(1)

Ministry of Fuel and Power

Opencast coal production (to 31st March, 1952). The trading deficit is treated as a subsidy.

Ministry of Materials (merged with Board of Trade in August 1954).

Commodity trading divisions(1). Losses on certain materials are treated as subsidies (see page 261, item (ii) a and page 265, item (i)).

The Mint(1). See page 209, item (b) on the measurement of trading income for Blue Book purposes.

Post Office

Postal, telephone and telegraph, etc. services (*Commercial Accounts* published annually). The surplus is treated as a tax on expenditure.

Post Office Savings Banks (including Post Office Savings Banks Fund) (accounts published separately, see Annex 3, items 24 and 26). See page 199 on definition of trading income of the Bank.

State Management Districts

Operation of breweries and public houses in certain areas(1).

(1) Denotes those trading bodies for which annual trading accounts are included in *Trading Accounts and Balance Sheets*.

Ministry of Supply

Royal Ordnance Factories⁽¹⁾. A note on the definition of the Factories' trading income appears at the foot of page 186.

Agency factories (to 31st March, 1952)⁽¹⁾.

Commodity trading divisions (before transfer to Ministry of Materials)⁽¹⁾. Losses on certain materials are treated as subsidies (see page 265, item (i)).

Capital assistance to private industry by the purchase and leasing of buildings and plant (e.g. imported machine tools). The income is included under "Gross rental income".

Board of Trade

Commodity trading divisions⁽¹⁾. Losses on certain materials are treated as subsidies (see page 261, item (i) a and page 265, item (i)).

United Kingdom-Dominions Wool Disposals Ltd. (now wound up). (Accounts published as a Command paper.)

Export Credits Guarantee Department⁽¹⁾.

Building, purchase and leasing to private industry of factories in Development Areas⁽¹⁾. The income is included under "Gross rental income".

Ministry of Transport and Civil Aviation

Current shipping operations—trooping, emigration and commercial services. (Accounts of commercial shipping operations included in *Trading Accounts and Balance Sheets* up to and including 1950-51.)

Civil aerodromes. (Accounts included in *Trading Accounts and Balance Sheets* for 1948-49 only.) The deficit is treated as a subsidy (see page 263).

Ministry of Works, Ministry of Housing and Local Government and Department of Health for Scotland

Building, and renting to local authorities, of temporary housing. An imputed income is included under "gross rental income" and the amount by which this exceeds the rentals received from local authorities is treated as a subsidy (see the table on page 255).

⁽¹⁾ Denotes those trading bodies for which annual trading accounts are included in *Trading Accounts and Balance Sheets*.

ANNEX 2

TREATMENT OF THE MAIN GRANT-AIDED BODIES⁽¹⁾A. *Treated as part of Central Government*

Agricultural Research Council
Arts Council
British Council
College of Aeronautics
Herring Industry Board
Imperial War Graves Commission
Medical Research Council
Metropolitan Police
National museums and galleries
Nature Conservancy
Regional Hospital Boards and Boards of Governors of Teaching Hospitals
United Kingdom Atomic Energy Authority
White Fish Authority

B. *Treated as part of personal sector of the economy*

Universities and colleges
Learned societies, institutes, etc.
Private research bodies
Committee for the education of Poles in Great Britain

C. *Treated as bodies serving industry (and hence as trading concerns outside the government)*

British Travel and Holidays Association
Council of Industrial Design
British Institute of Management
British Standards Institution
Dollar Exports Board

(¹) Other than the British Broadcasting Corporation (which is treated as a public corporation) and local authorities. There are also private bodies (e.g. the Royal Society) receiving assistance from the government in the form of free accommodation. Such assistance is ignored in the Blue Book accounts; to allow for it would require an imputed grant from the government to the personal (or company) sector and an imputed expenditure by the personal (or company) sector.

ANNEX 3

PUBLISHED SOURCES OF CENTRAL GOVERNMENT ACCOUNTS

The letters (HC) denote that a publication is a House of Commons Paper. The abbreviation (Cmd.) indicates a Command Paper. Certain of the accounts of grant-aided bodies and funds are appended to the appropriation account of the Vote from which the grant is made, and these therefore appear in the *Appropriation Accounts* referred to in item (9) below; where this is the case it is denoted in the list below by the symbol (AA).

EXCHEQUER ACCOUNTS

(1) *The Finance Accounts of the United Kingdom* (HC). This document is published about October of each year and relates to the financial year ended the previous March (with corresponding figures in some tables only for one earlier financial year). Apart from giving the account of the Consolidated Fund, as a whole, it contains a detailed statement of tax receipts, of miscellaneous sources of revenue, and of issues for "Consolidated Fund Services", and a summary statement of Exchequer issues for Supply Services. It gives details of transactions in connection with the National Debt, of Exchequer receipts and issues "below the line", and of the financial assets and liabilities of the State.

(2) *The weekly return of Exchequer Receipts and Issues*. This summary of Exchequer transactions is similar in form of presentation to the *Finance Accounts*, and is published in the *London Gazette*. The *Monthly Digest of Statistics* reproduces an abbreviated version of the weekly return.

(3) *The Financial Statement* (HC). This is published each year on the day the Budget is presented to Parliament. It contains a summary of the estimates of revenue and expenditure for the financial year then opening and a statement of proposed tax changes and of their estimated effect on revenue. Figures of the estimates and out-turn for the financial year just closed, or closing, are also given.

(4) *National Debt Return* (Cmd.). An annual account is published in October, providing a detailed account of transactions during the year and of the financial liabilities of the State. For details of the financial assets of the State, reference must be made to the *Finance Accounts*.

REVENUE

(5) *Annual Reports of the Commissioners of H.M. Inland Revenue* (Cmd.). This is published about the beginning of the year (e.g. 98th Report for 1954-55, published January 1956). It contains a detailed statement of revenue from income tax, surtax, profits tax, death duties, stamp duties, and other sources for a series of financial years including the year ended on the previous 31st March. In addition it contains a wealth of data of general economic interest derived from tax assessments about the financial operations of companies, the distribution of personal income, and estates assessed for death duties.

(6) *Annual Report of the Commissioners of H.M. Customs and Excise* (Cmd.). This is published about January (e.g. 46th Report for 1954-55, published in January 1956). It contains full details of revenue from Customs and Excise duties, which cover most of what are described in the Blue Book as taxes on expenditure, together with some account of the reasons for changes in their yield.

(7) *The Monthly Digest of Statistics* gives monthly figures of net receipts by the Inland Revenue and Customs and Excise, with an analysis under the main heads of revenue.

SUPPLY SERVICES

(8) *The Estimates* (HC): The estimates of expenditure in the financial year opening on the following 1st April are published in February-March; details of departmental receipts (other than taxes) are also shown. They also repeat the Estimates for the year then closing, including any Supplementary Estimates⁽¹⁾ approved during the year. The *Estimates* are published in three groups: namely the defence departments (Admiralty, War Office, Air Ministry and Ministry of Defence); civil departments (divided into 10 "classes"); and the revenue departments (Inland Revenue, Customs and Excise, and Post Office).

(9) *Appropriation Accounts* (HC): These are audited statements of expenditure and of receipts (other than taxes); the estimated expenditure and receipts (as adjusted by any *Supplementary Estimates*) are shown for comparison with the actual out-turn. The *Appropriation Accounts* are in somewhat less detail than the *Estimates*; they are published in the same three groups as the *Estimates* (see above). The accounts for each financial year are published in the following December-March.

(10) *Statement on Defence* (Cmd.): This is published at the same time as the *Estimates* and includes a table showing the estimated expenditure of the defence departments and the defence element of the Ministry of Supply. The content of the term "defence expenditure" as used in the *Statement on Defence* (and in the *Financial Statement*) differs from that in the Blue Book—see page 249. Moreover the classification of expenditure in the *Statement on Defence* differs from that in the *Estimates*.

(11) *Trading Accounts and Balance Sheets* of trading branches (HC) are published in an annual volume, the accounts for 1954-55 being published in January 1956; the *Post Office Commercial Accounts* (HC) and the Report and Accounts of the *Agricultural Land Commission* (HC) are published separately. These contain the commercial accounts of the trading branches, as distinct from the cash accounts of payments and receipts of such branches contained in the *Appropriation Accounts* and *Estimates*. The trading bodies for which trading accounts are published are indicated in Annex 1 (page 223).

OTHER BODIES, FUNDS AND ACCOUNTS

Only the accounts of the principal bodies and funds, etc., are listed below. They are almost all annual accounts.

(12) *National Insurance Funds* (HC): The accounts include the National Insurance Fund, the National Insurance (Reserve) Fund, the Industrial Injuries Fund and the National Insurance (Existing Pensioners) Fund. Prior to 5th July, 1948, there were separate accounts for the Unemployment Fund, National Health Insurance Funds and the Contributory Pensions Funds. Reports by the Government Actuary on the financial condition of the National Insurance Funds are also published (HC).

Grant-aided bodies

- (13) Agricultural Research Council (AA).
- (14) Arts Council.
- (15) British Council (AA).
- (16) Herring Industry Board (Cmd.).
- (17) Imperial War Graves Commission (AA).

⁽¹⁾ *Supplementary Estimates* are published as House of Commons Papers as they arise.

(18) Medical Research Council (AA).

(19) Metropolitan Police Fund (AA).

(20) Nature Conservancy (AA).

(21) Regional Hospital Boards, Boards of Governors of Teaching Hospitals, Hospital Management Committees, Executive Councils and the Dental Estimates Board (summarised accounts published separately for England and Wales and Scotland) (HC).

(22) United Kingdom Atomic Energy Authority: An annual report is published (HC) but accounts are not included. The grants to the Authority are however subdivided in the *Estimates* and *Appropriation Accounts* between grants for wages and salaries, grants for land, buildings and plant, and so on. This information provides an economic classification of the Authority's expenditure.

(23) White Fish Authority (HC).

Savings Banks

(24) Post Office Savings Banks Account.

(25) Trustee Savings Banks Account: This account shows the amounts invested by the Trustees of Savings Banks through the National Debt Commissioners and details of the securities held by the Commissioners. (The Trustee Savings Banks themselves are not treated in the Blue Book as part of the Central Government; summarised accounts of the Trustee Savings Banks appear in the annual *Report of the Inspection Committee of Trustee Savings Banks*.)

(26) Savings Banks Funds (accounts of the "Post Office Savings Banks Fund" and the "Fund for the Banks for Savings"): The income of these funds is the interest on securities held by the National Debt Commissioners on behalf of the Banks; the payments from the funds include (i) interest paid to Post Office Savings Bank depositors and to the Trustees of Savings Banks, (ii) management expenses of the Post Office-Savings Bank, and (iii) excess interest paid to the Exchequer. (See pages 198 and 202.)

(27) The National Savings Committee issue weekly and monthly figures of deposits in, and withdrawals from, Savings Banks and other National Savings media. Summaries are reproduced in the *Monthly Digest of Statistics*.

Lending to local authorities

(28) Local Loans Fund (HC): Details of the purpose for which loans are granted is given in the *Annual Report of the Public Works Loan Board* (the body which grants the loans).

Lending to public corporations

Accounts under the following Acts:

(29) Cinematograph Film Production (Special Loans) Acts, 1949 to 1954 (HC).

(30) Coal Industry Nationalisation Act, 1946 (HC). This account also gives details of the compensation paid to former coal-owners (both in cash and in issues of stock), of the annuities by which the National Coal Board is repaying amounts issued as compensation, and of "interim income" transactions.

(31) Cotton (Centralised Buying) Act, 1947 (HC).

(32) Development of Inventions Acts, 1948 and 1954 (HC).

(33) Housing (Scotland) Act, 1950 (AA).

(34) New Towns Acts, 1946 to 1953 (HC).

(35) Overseas Resources Development Acts, 1948 to 1951 (HC).

War damage compensation (see page 203). Separate accounts are published for:

(36) War Damage (Land and Buildings) Account (HC).

- (37) War Damage (Business and Private Chattels Schemes) (HC).
- (38) War Risk (Commodities) Insurance Fund (AA).
- (39) War Risks (Marine) Insurance Fund, superseded as from 30th October, 1952, by the Marine and Aviation Insurance (War Risks) Fund (AA).
- (40) War Damage (Public Utility Undertakings) Account (AA).
- (41) Town and Country Planning (Planning Payments (War Damage) Schemes, 1949) (HC).

Other accounts

- (42) Acquisition of Guaranteed Securities Fund (AA): This Fund, administered by the Export Credits Guarantee Department, acquires and disposes of the foreign government securities referred to on page 212, item (v) and similar securities issued by foreign companies, etc.
- (43) American Aid and European Payments Accounts (HC): This provides information on Dollar Aid to the United Kingdom and includes details of the transactions of the Special Account and related accounts.
- (44) Bank of England Annual Report (Cmd.).
- (45) Building Materials and Housing Fund (HC): This Fund relates to the activities of the Ministry of Works in connection with the production and distribution of building materials and the construction of houses. The Fund was closed on 31st March, 1954.
- (46) Civil Contingencies Fund (HC): This Fund, administered by the Treasury, is used to make temporary advances to departments in anticipation of Supply issues.
- (47) Crown Lands Abstract Accounts (HC).
- (48) Development Fund (HC): Grants and loans are made from this fund for the purpose of promoting the rural economy and of developing fisheries, etc.
- (49) Education (Scotland) Fund (AA): Grants to education authorities and institutions are paid from this Fund.
- (50) Forestry Fund (AA): This is the account of the Forestry Commission on a cash basis. Accounts on a commercial basis are included in *Trading Accounts and Balance Sheets* (see item (11) above).
- (51) Housing (Temporary Accommodation) Act, 1944, Account (HC): This relates to the purchase and erection of temporary houses by the Ministry of Works.
- (52) Irish Land Purchase Fund (HC): The account shows the transactions of the National Debt Commissioners in connection with payments of interest on, and the redemption of, stock issued for financing land purchase in Ireland.
- (53) Iron and Steel Realisation Account (HC): See page 209. The accounts of the Iron and Steel Holding and Realisation Agency (HC) provide further information.
- (54) National Land Fund (HC): This fund is administered by the Treasury; *inter alia*, the Treasury makes payments from the Fund to the Inland Revenue where property is accepted by the State in satisfaction of death duties.
- (55) Navy, Dockyard and Production Accounts (HC): These give an analysis of dockyard costs and their division between the principal products.
- (56) Railways, Government control of (Cmd.): These statements show the net revenue of the government under the war-time agreement for the control of the railways; they cover the period to 31st December, 1947, at which date control ceased. (See page 196.)

Other accounts (continued)

(57) Road Fund (HC): Grants to highway authorities and expenditure on trunk roads are financed from this Fund. The Fund was wound up on 31st March, 1956.

(58) Sinking Fund (HC): See foot of page 217, item (iii).

(59) Tithe Act, 1936, Redemption Annuities Account (HC): This records transactions in connection with (i) Redemption Stock issued as compensation when tithes were extinguished, and (ii) redemption annuities paid by landowners released from their tithe rentcharge obligations.

(60) Transport Fund (HC): See page 195, footnote (2).

(61) United Kingdom-Dominions Wool Disposals Ltd., Accounts (Cmd.): The final account covered the period to 15th February, 1954. See page 264, footnote (2).

NORTHERN IRELAND

Accounts are published by the Northern Ireland Government which follow very closely those for the United Kingdom. They include:

(62) Finance Accounts.

(63) Financial Statement

(64) Estimates for Supply Services.

(65) Appropriation Accounts for Supply Services.

(66) Trading and Other Accounts.

(67) National Insurance Funds Accounts.

(68) Accounts of Capital Receipts and Payments: This includes details of the Civil Contingencies Fund, Ulster Land Fund, Reserve and Sinking Funds and Capital Purposes Fund.

(69) Government Loans Fund.

(70) Agricultural Loans Fund.

(71) Road Fund.

(72) Summary of Health Services Accounts.

Chapter IX

Local Authorities

1. GENERAL DESCRIPTION AND SOURCES

Local authorities are public authorities of limited geographical scope, having power to raise funds by certain forms of local taxation. Substantially all local bodies (other than companies trading for profit) that have powers to levy rates, taxes, tolls or dues, or to require them to be levied, are obliged to make annual returns of income and expenditure under Part XI of the Local Government Act of 1933⁽¹⁾; and it is convenient, therefore, to define the Blue Book sector "local authorities" as the authorities and bodies (with one exception referred to below) making returns under this Act. The local authority sector thus includes not only the local authorities with general administrative functions in varying degrees—such as the county, borough, district and parish councils, and joint boards and committees formed by two or more councils; it also includes local bodies with special functions—local harbour boards (some of which, such as the Port of London Authority and the Mersey Docks and Harbour Board, are of very substantial size), district fishery boards, drainage and river boards, water boards (including the Metropolitan Water Board) and a variety of bodies such as the conservators of certain commons and the trustees of certain London squares. (New Town Development Corporations are not included; they are treated in the Blue Book as public corporations.) There is however one important body making a return under the Local Government Act of 1933 which is excluded from the scope of the term "local authority" in the Blue Book. This is the Metropolitan Police which, by virtue of the national scope of some of its functions and its special relationship through the Home Office with the Central Government, is treated in the national income statistics as part of the Central Government.

The annual returns made under the Local Government Act are summarised for England and Wales in the *Local Government Financial Statistics* published annually by the Ministry of Housing and Local Government; the most recent return, for 1953-54, was published in October 1955. Corresponding summaries are available⁽²⁾ for Scotland (the *Local Financial Returns (Scotland)*) and are published for Northern Ireland (the *Local Taxation Returns*); the most recent return for Scotland, referring to 1949-50, became available in February 1955, and that for Northern Ireland, referring to 1951-52, was published in December, 1955. The three summaries together have the same scope as the local authority sector of the Blue Book, apart from the exclusion from the latter of the Metropolitan Police already referred to above⁽³⁾. The three sources

(1) In Scotland the relevant Act is the Local Government (Scotland) Act, 1947, and in Northern Ireland the Local Government (Application of Enactments) Order, 1898.

(2) They are not at present published.

(3) It should also be noted that the superannuation funds of local authorities are regarded in the Blue Book as part of the personal sector. Part of the balance of superannuation funds may be applied by local authorities to finance capital development, and this part appears in the Blue Book as lending by the personal sector to the local authority sector.

provide the greater part of the information required for the local authority accounts in the Blue Book; they are supplemented by special returns of local authorities' capital payments which become available much earlier than the *Local Government Financial Statistics*, and by certain other advance estimates.

The local authority accounts are presented in the Blue Book in the same categories as those adopted for the Central Government. The principles of the classification of transactions are the same and need not be repeated. The problems involved in rearranging the published data are, however, fewer⁽¹⁾.

(i) The difficulty of eliminating "internal" transactions is less because many transfers between one authority and another (e.g. precepts levied by one authority on another) are already eliminated in the published sources. (ii) A distinction between current and capital expenditure is made for the accounting purposes of local authorities which is close to that required for national income accounts, so that current and capital transactions are distinguished in the published summaries. (iii) The summaries give an analysis of transactions between the different local authority services (education, police, etc.), and moreover the services are divided between a group described as "trading services" and the rest (that is, "rate-fund" services). It may also be pointed out that local authorities' accounts are nearly all on an income and expenditure basis, in contrast with the cash basis used for most Central Government accounts.

In one respect the annual returns summarised in the *Local Government Financial Statistics* do not however provide the full information required for national income analysis. Whilst one important element of expenditure on revenue account, namely loan charges⁽²⁾, is shown separately, the economic categories of expenditure on goods and services and grants to persons are not distinguished. Hence other sources of information have to be used for the Blue Book estimates of current grants to persons (principally more detailed information on local education authorities' expenditure collected by the education departments of the Central Government); and there can be no certainty that all classes of local authority grants to persons have been identified. In the case of expenditure on capital account, the returns show separately capital moneys assigned to the repayment of debt, but capital transfers and other financial transactions (such as lending) are not distinguished from fixed capital formation. Nor are increases in value of stocks identified. The whole of the entry showing expenditure on capital account other than the repayment of debt has therefore been treated in the Blue Book as fixed capital formation⁽³⁾; and it has been assumed that increases in value of stocks, capital transfers and lending (other than in connection with small dwellings acquisition) are sufficiently small to be ignored, though in fact some trading stocks must be held.

The elimination of the Metropolitan Police from the figures given in the published summaries is straightforward. Separate figures for the Metropolitan Police appear in very summary form in the *Local Government Financial Statistics* and detailed figures, from which a full economic classification is

(1) For the analysis of a sample of local authorities' accounts in social accounting terms see J. E. G. Utting, *Social Accounts of Local Authorities*, Cambridge University Press (1953).

(2) That is interest on borrowed moneys, repayments of principal other than out of sinking funds, and payments into sinking funds.

(3) Capital expenditure shown against the heading "Small dwellings acquisition" has however been taken to represent lending.

derived, appear in the accounts of the Metropolitan Police Fund (which are reproduced in the Central Government's *Estimates and Appropriation Accounts*).

Two other problems in the construction of the accounts of the local authority sector are similar to problems already discussed in connection with the Central Government's accounts (page 214), firstly the preparation of calendar year figures from financial year data, and secondly estimation for the most recent year or years for which published accounts are not yet available.

The local authorities' financial year ends on 31st March in England and Wales and in Northern Ireland, and (with some exceptions) on 15th May in Scotland. Apart from the special returns of local authorities' capital payments (which are half-yearly) and figures of Central Government grants and loans to local authorities (for which government sources provide quarterly figures), the basic data all relate to financial years. Except in the special cases referred to, calendar year estimates are constructed simply by taking one-quarter of one financial year's figures (e.g. 1953-54) and adding three-quarters of the following financial year's (e.g. 1954-55) to give figures for the calendar year (e.g. 1954)—except for Scotland where the proportions are three-eighths and five-eighths.

The collection and publication of the returns from local authorities are not complete in time to provide statistics for the most recent years. Thus at the time the Blue Book, 1955, was prepared, the *Local Government Financial Statistics* for England and Wales for 1952-53 were the latest published material, though preliminary tabulations for 1953-54 had become available (final summaries for 1953-54 were published in October 1955). So far as Scotland and Northern Ireland were concerned nothing later than 1949-50 was available when the Blue Book, 1955, was published. Apart from figures of fixed capital formation and Central Government grants and loans (for which alternative and more up-to-date sources of information are available), the figures for the latest years shown in the Blue Book are based on estimates supplied by the Ministry of Housing and Local Government and the Scottish Home Department. These are derived in part from such local authority returns as are available but chiefly from the departments' knowledge of likely changes in local authority income and expenditure, many of which flow from changes in Central Government policy and are reflected in Central Government grants. In making advance estimates for local authority services, such as education, for which some other government department has a general responsibility, the Ministry of Housing and Local Government consults with these other departments (e.g. the Ministry of Education) as necessary. The advance estimates for Northern Ireland are rather rough; it is assumed in several cases that the trends of income and expenditure are similar to the corresponding trends in Great Britain. It follows from this description that the estimates in the Blue Book of local authorities' income and expenditure for the more recent years are subject to revision, and that in general they are less reliable than the advance estimates of Central Government income and expenditure (which moreover have to be made only in respect of the latest year shown in the Blue Book).

2. THE BLUE BOOK TABLES ⁽¹⁾

The Blue Book gives two tables for local authorities—a current account (Table 40) and a capital account (Table 41). The following notes describe these tables and the sources from which the figures are derived; the *Local Government Financial Statistics* for England and Wales and the corresponding statistics for Scotland and Northern Ireland are the sources except where otherwise stated⁽²⁾. In addition, the figures are combined with corresponding figures for the Central Government in the table showing expenditure of combined public authorities (Table 42).

THE CURRENT ACCOUNT

The current account of local authorities is presented as follows:

Current account of local authorities, 1954

£ million

Revenue		Expenditure	
Current grants from the Central Government:			
Grants not allocated to specific services	79	Current expenditure on goods and services ⁽¹⁾	787
Grants for specific services ⁽¹⁾	353	Housing subsidies	23
Total	432	Current grants to persons ⁽¹⁾	57
		Debt interest	127
Rates	460	Total current expenditure	994
Gross trading income ⁽²⁾	27	Current surplus before providing for depreciation and stock appreciation	409
Gross rental income from land and buildings ⁽²⁾	178		
Interest, etc.	6		
Total	1,103	Total	1,103

Source: Blue Book 1955, Table 40

⁽¹⁾ These items are divided in the Blue Book into a number of categories (see notes below).

⁽²⁾ Before providing for depreciation and stock appreciation.

Current grants from the Central Government

Grants from the Central Government comprise both grants towards specific services, such as education, which account for about 80 per cent. of the total government grants shown in Table 40, and grants not allocated to specific services. The latter include "equalisation grants", payments under the Tithe Act, 1936 (about £1 million per annum) and receipts from licences for dogs, guns, etc. (collected and retained by the local authorities). "Precepts" paid by local authorities to the Metropolitan Police (treated here as a branch of the Central Government) have been deducted. Grants to

⁽¹⁾ References are to Blue Book, 1955.

⁽²⁾ References below to the *Local Government Financial Statistics* should be read as referring also to the corresponding sources for Scotland and Northern Ireland.

trading services are not included here but are taken into account in deriving the estimate of trading income (see next page). Since housing is treated as a trading service, grants towards housing are excluded. The specific grants are analysed in the Blue Book table according to service in the same way as current expenditure on goods and services (see page 238)(1).

The figures of current grants derived from the *Local Government Financial Statistics* differ somewhat from those derived from the Central Government's *Appropriation Accounts*; this can probably be explained by the Central Government recording actual payments while the local authorities record amounts due. For the consistency which is essential in a system of social accounts, the figures from the local authority accounts have generally been adjusted to accord with those given by the Central Government accounts. This adjustment is reflected in the residual item in the local authorities' capital account "other borrowing (net)".

Rates

Local rates (which include land drainage rates) are treated as a form of tax on expenditure, being related to the particular activity of using land and buildings (see also page 189). The Central Government, the British Transport Commission and the national electricity authorities are not liable to pay rates but make instead contributions in lieu of rates; these are included here. Water rates paid by water consumers are not included, but are treated as current receipts of a trading service.

Gross trading income

The trading activities of local authorities are treated in the same way as those of Central Government (see pages 184 to 188). Only the surplus of current receipts over current expenditure is included in the income of the local authority sector and is described as "gross trading income" (in the case of housing the income appears under "gross rental income"). In conformity with the treatment of trading bodies elsewhere in the Blue Book, the imputed rental income from the ownership of buildings and plant used for trading services (other than housing) is included under "gross trading income". Apart from housing, the trading services are those shown as such in the *Local Government Financial Statistics*; they are listed in the following table:

Gross trading income, 1953-54

	£ million
Water supply	11
Passenger transport	7
Harbours, docks and piers	6
Cemeteries	-1
Civic restaurants, markets and miscellaneous	1
General corporation estates	1
Total	25

(1) Grants shown under the heading "Education" also include grants towards school meals and milk.

Before nationalisation, municipal electricity and gas undertakings were of course included; their disappearance from the local authority sector in 1948 and 1949 (except for Northern Ireland) substantially diminished the scope of local authority trading services.

Current receipts of trading services consist chiefly of revenue from sales (e.g. from passenger transport), or from various fees, dues and rents which may (as in dock and harbour undertakings) or may not (as in the case of water rates) be precisely related to the extent to which the service is used by the payer. To these receipts are added the relatively small government grants towards trading services, but receipts towards deficiencies from rate-fund accounts and from reserve funds are excluded. The *current expenditure* consists of the "working expenses", but, as for other trading bodies, loan charges⁽¹⁾ are not treated as a current expense⁽²⁾. The data relating to these items are set out in the *Local Government Financial Statistics*, although certain adjustments (partly estimated) must be made in respect of the transfers to and from other accounts and funds. Whilst it is recognised that not every local authority trading service (outside housing) may be operated broadly to cover its costs, in no case is any part of the income here described as a "tax on expenditure" derived from the exercise of monopoly, nor any loss (except in the case of housing) as a "subsidy" (as is done for some Central Government trading bodies—see pages 185–186).

Gross rental income from land and buildings

This item represents the rental income, before deduction of loan charges⁽¹⁾, arising from the ownership of houses and of non-trading property (such as schools, offices and roads). Housing is treated as a trading activity, in which the price of the product (that is, the rents charged to tenants) is, as a matter of policy, less than the cost. In conformity with the principles set out on pages 185 to 187, the deficit on housing revenue account is therefore treated as a subsidy, and the gross rental income is taken to equal the annual loan charges⁽¹⁾; these loan charges are the equivalent of interest on capital and depreciation. The gross rental income from houses is therefore an imputed measure related to the full economic rent⁽³⁾. The table on page 255 gives figures for 1946 to 1954 showing how the gross rental income from local authority houses (as here defined) (£116 million in 1954), may be equated with the sum of rents received (£106 million), Central Government subsidies (£49 million) and the local authorities' own subsidies (£23 million), less the cost of repairs, etc. (£62 million).

The estimate of the gross rental income from non-trading property is also an imputed figure. It too is measured by the annual loan charges. It is balanced by the inclusion of an equal amount in current expenditure on goods and services (see page 238). The following shows the analysis of gross rental income:

⁽¹⁾ That is interest on borrowed moneys, repayments of principal other than out of sinking funds, and payments into sinking funds.

⁽²⁾ Transfers in aid of rates, transfers to reserve funds and transfers to capital accounts are also excluded from current expenditure.

⁽³⁾ In so far as the loan charges are related to the *original* cost of the houses and not to their current replacement cost, the rental income as measured here is related to something less than the full economic rent.

Gross rental income of local authorities

£ million

	1946	1947	1948	1949	1950	1951	1952	1953	1954
Housing	41	45	52	61	69	78	92	105	116
Non-trading assets	35	32	30	31	35	40	48	57	62
Total	76	77	82	92	104	118	140	162	178

The total represents all loan charges shown against rate-fund services in the *Local Government Financial Statistics*, apart from loan charges in connection with small dwellings acquisition⁽¹⁾.

Interest, etc.

This item of income consists of interest received on advances made to persons in connection with small dwellings acquisitions and interest received on the invested balances of sinking funds, consolidated loans funds and certain other special funds⁽²⁾. It is derived from the *Local Government Financial Statistics*. Interest received from the Central Government and nationalised industries in respect of loans for which these bodies have accepted responsibility are excluded (see page 239).

Current expenditure on goods and services

This item represents the expenditure on revenue account of rate-fund services other than housing, less certain expenditure which is treated as grants to persons (scholarships and grants to universities, school meals and milk, and outdoor relief)⁽³⁾. Fees and recoupments (such as school fees, contributions by the beneficiaries towards the cost of welfare services, entrance fees to museums, and recoveries of expenditure) are deducted from the corresponding expenditures⁽⁴⁾. All the figures are derived from the *Local Government Financial Statistics* except the estimates of grants to persons (see page 239).

It may be noted that the figures include employers' superannuation contributions in respect of all local authority employees except police and firemen. Such contributions are paid to special superannuation funds managed by local authorities⁽⁵⁾ or (in the case of the teachers' pension scheme) to the Central Government. In the case of the contributory pension schemes for the

⁽¹⁾ In this case the assets financed by the loans are not fixed assets but financial assets. There are some other cases, apart from small dwellings acquisition, where loans are employed, not for purchase of fixed assets but for lending to the private sector, etc.; this is not however taken account of in the Blue Book.

⁽²⁾ The investment income of superannuation funds is excluded; such income is deemed to accrue to employees.

⁽³⁾ The parts of expenditure on rate-fund services revenue account representing transfers to capital account, transfers towards deficiencies on trading services and transfers to certain special funds (e.g. reserve funds) are excluded from current expenditure on goods and services.

⁽⁴⁾ The parts of the heading "fees and recoupments, etc." shown in the *Local Government Financial Statistics* which represent transfers from certain special funds (e.g. reserve funds) and interest on, and repayments of, advances to persons for small dwellings acquisitions are not deducted in arriving at current expenditure on goods and services.

⁽⁵⁾ See footnote ⁽²⁾ on page 231.

police and fire services, there are generally no separate pension funds and no identifiable employers' contributions; the pensions paid to retired members of these services, less employees' contributions, are included under current expenditure on goods and services.

The loan charges are left in the total of expenditure on goods and services (except in the case of small dwellings acquisition) to represent rental payments for the use of fixed assets financed from the loans; there is a balancing element in "gross rental income" representing the imputed income from the ownership of non-trading fixed assets (see page 236). Thus, debt interest as well as representing an imputed part of expenditure on goods and services reappears on the expenditure side of the Blue Book current account as an actual transfer payment (see next page). The part of loan charges representing repayment of sums borrowed also appears twice—as part of current expenditure on goods and services and (in the capital account) as repayment of borrowing.

Current expenditure is analysed by services as shown below. This classification is the same as that adopted in Table 42, Blue Book, 1955, where the combined expenditure of the Central Government and local authorities is analysed. The definitions of the services (in terms of the classification adopted in the *Local Government Financial Statistics*) is given in Chapter X (the page numbers are shown below).

	<i>Page number</i>
Rate collection	248
Police	248
Administration of justice	
Civil defence	252
Social services:	
Education }	256
Child care }	
Health	257
Care of the aged, handicapped and homeless	258
Agricultural services	260
Provision of basic local services:	
Roads }	266
Public lighting }	
Fire service	267
Sewerage and refuse disposal	267
Land drainage and coast protection	267
Town and country planning, parks, etc.	268
Other	269

Housing subsidies

This is the only expenditure recognised as a subsidy in the Blue Book presentation of local authority accounts. It represents the deficit on housing services i.e. the excess of expenditure including loan charges and repairs etc. on all housing revenue accounts⁽¹⁾ over the amounts received in rents from

⁽¹⁾ Actual repair expenditure charged to Statutory Housing Repairs Accounts is included (rather than the provision for repairs charged to housing revenue accounts). The part of expenditure on housing revenue accounts representing transfers to capital account and to reserve funds is excluded.

tenants and in Central Government contributions ("grants"). The subsidy also includes the net cost to local authorities of improvement grants to private house owners (i.e. after deducting the government contribution). The derivation of the figures is shown in the table on page 255. Nothing is included in local authority subsidies in respect of emergency housing, since (in the period covered by the tables under discussion) the Central Government reimbursed local authorities for the net cost incurred by them in providing such housing (see page 253).

Current grants to persons

These are divided in the Blue Book into :

a. Outdoor relief—public assistance in cash and kind. These services were taken over by the National Assistance Board (a branch of the Central Government) on 5th July, 1948.

b. School meals and milk—the cost to local authorities of providing school meals and milk, after deducting receipts from parents. This is treated as grants to persons, rather than expenditure on goods and services, in the same way as milk and welfare foods provided by the Central Government (see page 191). From 1st October, 1954, there was an important change in the administrative arrangements, whereby the cost of school milk previously borne by the Ministry of Food was borne by local education authorities. The Central Government grant towards the cost of the education service was increased by an equal amount.

c. Scholarships and grants to universities—scholarships comprise cash payments to pupils and students in respect of fees and maintenance allowances.

Figures of these items are not given in the *Local Government Financial Statistics* (see page 232). Figures for (b) and (c) above are derived from returns made by local education authorities to the education departments; see the *Annual Abstract of Statistics* (e.g. 1955 issue, Tables 48, 105, 112 and 119).

Debt interest

This is the interest paid on rate-fund and trading services revenue accounts. Payments of debt interest which are financed from interest received on the invested balances of consolidated loans funds are also included⁽¹⁾. Interest on loans in respect of hospitals and gas and electricity undertakings now vested in national authorities is excluded, and the reimbursements made by these national authorities are also omitted in the item showing interest received by local authorities (page 237).

THE CAPITAL ACCOUNT

The capital account for local authorities, covering both trading and non-trading services, is set out below. The problem of separating capital from current items is much simpler than for Central Government; the distinction made for accounting purposes by the local authorities and summarised in the *Local Government Financial Statistics* is close to that required here.

⁽¹⁾ This element of debt interest does not appear in the *Local Government Financial Statistics*.

Capital account of local authorities, 1954

£ million

Receipts		Payments	
Current surplus before providing for depreciation and stock appreciation	109	Gross fixed capital formation:	
Capital grants from the Central Government:		Housing	375
War damage compensation	2	Other trading services ⁽¹⁾	52
Other	12	Non-trading services ⁽¹⁾	163
Net borrowing from Central Government	256		
Other borrowing (net)	211		
Total	590	Total	590

Source: Blue Book, 1955, Table 41

⁽¹⁾ Further divided in Blue Book.

Capital grants from the Central Government consist of war damage compensation and grants towards capital expenditure on specific services (principally housing, education, roads, water and sewerage, land drainage and coast protection, and town and country planning). The substantial increase in capital grants towards specific services between 1952 and 1953 reflects grants made towards reconstruction work following the East coast floods in February 1953. The grant for education relates mainly to school canteens and their equipment financed by the Ministry of Education and the Scottish Education Department; in the Blue Book this fixed capital formation has been attributed to the local authority sector, which has been reimbursed by an "imputed" grant.

Capital grants from the Central Government are separately shown in the *Local Government Financial Statistics* (with the exception of the imputed grant just referred to, which does not appear at all in the *Financial Statistics*). The figures differ somewhat from those in the Central Government accounts; the latter have generally been used for the same reasons as in the case of current grants from the Central Government (see page 235).

Net borrowing from Central Government

Borrowing from the Central Government is not distinguished in the *Local Government Financial Statistics* from borrowing from other sources. The Blue Book figures are taken from the Central Government's accounts. They relate to advances (less repayments) from the Local Loans Fund to local authorities through the agency of the Public Works Loan Board. (See also page 212.)

Other borrowing (net)

This item represents the net increase in local authorities' financial liabilities (less financial assets), apart from liabilities to the Central Government shown as a separate item in the capital account. The item therefore reflects

borrowing from sources outside the Central Government through public issues, mortgages, etc., borrowing from superannuation funds, lending to persons in connection with small dwellings acquisition and changes in cash and invested balances of funds, etc. Up to 31st December, 1952, restrictions were placed on local authorities' borrowing from sources other than the Public Works Loans Board, and the increase in the series for "Other borrowing (net)" in 1953 and 1954 reflects the lifting of these restrictions. Some information on local authorities' public issues is given in the *Monthly Digest of Statistics* (e.g., January 1956, issue, Table 144).

"Other borrowing (net)" is essentially the residual item in the Blue Book accounts of local authorities, and it therefore reflects any adjustments of errors made elsewhere in the two Blue Book tables—for example, the adjustment to the figures of grants from the Central Government made in order to conform with the accounts of the Central Government (see page 235). Apart from such adjustments and the segregation of loans from the Central Government as a separate item in the Blue Book, the figures can be derived from the *Local Government Financial Statistics*, which shows loans raised, changes in balances of funds, etc.

Gross fixed capital formation

Estimates of fixed capital formation for all years but the most recent are derived mainly from the *Local Government Financial Statistics* and to some extent from the capital payments returns referred to below. The whole of the item "capital expenditure" shown in the *Financial Statistics* has been treated as fixed capital formation, apart from the element representing repayments of debt and apart from capital expenditure in connection with small dwellings acquisition treated as lending (see page 232). Deductions have been made for sales of fixed assets⁽¹⁾.

The special half-yearly returns of capital payments are available well in advance of the *Local Government Financial Statistics*. Estimates of fixed capital formation in the most recent year or years is therefore based entirely on this source (see also page 292). These returns also show the division of capital expenditure between land, buildings, plant, vehicles, etc., and this information is used in the compilation of Table 51, Blue Book, 1955.

The Blue Book capital account shows the division of gross fixed capital formation between the various non-trading services listed on page 238 and the following trading services:

- Housing
- Gas and electricity
- Road passenger transport
- Harbours and docks
- Water
- Other (see list on page 264).

The estimates for education include the cost of the school canteens referred to on page 240. Further information on the content of some of the items is given in Chapter X.

(1) The item "Other capital receipts" in the *Local Government Financial Statistics* has been taken to represent sales of fixed assets (except in the case of small dwellings acquisition).

3. RELIABILITY

The basic data are accounting data and their reliability is good. The adjustments to a calendar year basis and the other adjustments required do not substantially affect the reliability. A significant element of uncertainty arises in the figures for the latest two years shown which are essentially estimates and projections ; for Scotland and Northern Ireland this process of estimation and projection has, at present, to be applied over a period of some five years. Although most of the elements in the tables are fairly stable from year to year, or can be estimated with some certainty from known changes in policy or changes in Central Government grants, nevertheless the reliability of the figures for the last two years should not be regarded as more than fair.

Chapter X

Combined Public Authorities

1. THE ANALYSIS OF EXPENDITURE

For many purposes it is convenient to treat public authorities as a whole; that is, to form a consolidated account in which, in general, transactions between one authority and another are omitted. The principal table in Section IX of the Blue Book, 1955—Table 42—gives a part of such an account, namely the consolidated expenditure of public authorities, with an analysis by type of public service provided (defence, education, and so on). Public authorities in this context comprise the Central Government (including National Insurance Funds) and local authorities; public corporations are excluded.

The result of consolidation is that the elements of Central Government expenditure representing current grants to local authorities and capital grants to local authorities are omitted from Table 42, since these items are merely transfers between one public authority and another; to include both government grants to local authorities and the local authority expenditure financed out of the grants would, in a sense, be double counting. The process of consolidation has not however been carried to the furthest possible extent. For example, taxes on expenditure levied by the Central Government and falling on local authority expenditure have not been deducted; nor have payments by the Central Government in lieu of local authority rates been deducted.

In addition to those items of expenditure which disappear on consolidation, certain other items of expenditure are omitted from Table 42, namely debt interest, lending and other transactions in financial assets. The exclusion of debt interest follows from the fact that it cannot satisfactorily be analysed according to the public service provided, this analysis being the primary purpose of Table 42⁽¹⁾.

Table 42 gives a two-fold analysis; firstly by eight economic categories and secondly by public service provided, as shown by the following extract relating to the year 1954⁽²⁾.

(¹) In the case of local authorities, loan charges (one element of which is debt interest) appear as part of current expenditure on goods and services and also as part of the imputed rental income from the ownership of land and buildings. Hence the separate item "debt interest" in Table 40, Blue Book, 1955, must be regarded as an off-set to this rental income rather than as an item of expenditure which can be classified by service provided. The same is true to a limited extent of the Central Government; a major part of interest on the National Debt is of course a heritage of the two World Wars.

(²) A somewhat similar analysis, but limited to the group of services shown in Table 42 as "social services", appears in the "Drage" return of Expenditure on the social services (see the *Monthly Digest of Statistics*, e.g. May 1955 issue, page iv, or the *Annual Abstract of Statistics*, e.g. 1955 issue, Tables 46-50). This return shows more detail than Table 42 of the Blue Book, 1955, and it gives figures for financial year (rather than calendar year) periods.

Provision of basic services:	110	—	14	—	—	—	—	—	124
Roads and public lighting	19	—	2	—	—	—	—	—	21
Fire service	51	32	25	—	—	—	—	—	108
Water, sewerage and refuse disposal	12	—	15	—	—	—	—	—	27
Land drainage and coast protection	34	—	14	—	—	—	—	—	48
Town and country planning, parks, etc.	—	—	—	—	—	—	—	—	35
War damage compensation and disposal of surplus war stores in the United Kingdom	54	—	11	—	—	—	2	4	71
Other services	3,099	531	241	—123	426	1,021	53	71	5,319
Total	2,312	104	78	—123	403	964	53	71	3,862
of which: Central Government	787	427	163	—	23	57	—	—	1,457
Local authorities									

Source: Blue Book 1955, Table 42

Although Table 42 shows the division between the Central Government component and the local authority component only for the "Total" line, in fact the full analysis by economic category and by type of service is given for local authorities in Tables 40 and 41, Blue Book, 1955. The Central Government component of each figure in Table 42 may therefore be found by deducting the local authority component as given in Tables 40 and 41.

2. GENERAL DESCRIPTION OF THE CLASSIFICATION BY SERVICE

Twenty-three public services are distinguished in the analysis of public authorities' expenditure, but not every item of expenditure falls clearly and unambiguously into one or other of these twenty-three classes. Some expenditure may be regarded as being associated with two or more services. For example, the school health service might be regarded either as part of the educational service or as part of health services. Similarly civil defence preparations in connection with the hospital service might be regarded as part of civil defence or of health services. In such cases an element of arbitrariness enters into the classification. Where an item of expenditure is associated with two services A and B and is administered as part of A, it has been statistically convenient, in borderline cases, to adopt this as a criterion of classification.

For the Central Government the various Votes and sub-heads have been classified according to the service provided. In many cases the whole of a Vote, or even all the Votes of a department, fall under one service; for example all expenditure of the Commonwealth Relations Office falls under "overseas services". In other cases the expenditure of a department—or the expenditure on a single Vote—must be spread between several services. Thus the Ministry of Transport and Civil Aviation's expenditure has to be divided between (a) transport and communication, (b) roads and public lighting, (c) civil defence (provision of equipment at docks, etc.), and (d) finance and tax collection (the cost of collection of motor vehicle licence revenue). Whilst the main bulk of expenditure on roads, civil defence, etc., may be segregated because it is shown in separate Votes or separate sub-heads, the administrative costs of the Ministry of Transport and Civil Aviation cannot readily be allocated by type of service, since for example almost all wages and salaries fall on a single sub-head. This situation is fairly common and can be dealt with only in an arbitrary way, either by allocating the whole of departmental administrative expenses to the major service provided by the department, or splitting the expenses in fairly arbitrary proportions—sometimes with the aid of information given in the published *Estimates*.

In the case of current goods and services provided "free" (i.e. without cash reimbursement) by one department for another—for example, postage and telephone calls provided by the Post Office without charge—the cost has been debited to the service receiving these "free" facilities. In consequence almost the whole of the current cost of providing certain "common services"⁽¹⁾ is allocated to the various public services making use of them.

(1) Principally office and other accommodation costs borne by the Ministry of Works; the stationery and printing costs of H.M. Stationery Office; the expenses of the Central Office of Information; rates on government property which are charged to a single Vote; and the cost of civil service superannuation which (for a large section of the service) is charged to a single Vote.

This reallocation is based on the statements of "allied services" given at the end of Section II of the Estimate for each Supply Vote⁽¹⁾.

For local authorities, the analysis of expenditure by type of service has been obtained by grouping as appropriate the various services separately specified in the *Local Government Financial Statistics*; details of the grouping are given in this chapter.

Table 42 gives an analysis of public authorities' gross fixed capital formation which in many ways is similar to the analysis (for all sectors combined) in Table 50, Blue Book, 1955. The following differences in classification should however be noted.

- (i) Each of the entries in Table 42 includes (where applicable) purchases (*less* sales) of land and existing buildings, and legal fees, stamp duties, etc. Such purchases, sales and legal fees, etc. are excluded from the analysis in Table 50 (though a total figure for stamp duties and legal fees, etc. appears at the foot of the table as a single item).
- (ii) Houses provided for specific public services (e.g. married quarters for the Forces and houses for police) are included under the service concerned in Table 42, but all houses appear under the single item "new dwellings" in Table 50.
- (iii) Expenditure on civil defence works and equipment has, so far as practicable, been segregated into a single item in Table 42 (with the important exception of Post Office capital expenditure connected with defence). In Table 50, such expenditure is included in the industry or service concerned (e.g. docks, health services).
- (iv) Certain other small differences of classification are referred to below in discussion of individual items; it is intended to eliminate a number of these divergencies in the Blue Book, 1956.

The sources of the figures given in Table 42 are the same as those used in drawing up the tables described in Chapters VIII and IX of this publication.

3. DESCRIPTION OF INDIVIDUAL ITEMS IN THE ANALYSIS OF EXPENDITURE

In the following paragraphs only the principal elements within each item are mentioned. References to public services in Great Britain should be taken to include the corresponding services in Northern Ireland (where applicable). The descriptions given for items of Central Government expenditure in general refer to the composition of the items in the years 1950 to 1954, which is the period covered by Table 42 of the Blue Book, 1955. For all local authority items, however, figures for the years 1946 to 1954 appear in Tables 40 and 41 of the Blue Book, 1955, and the descriptions given here therefore cover the whole period 1946 to 1954. In certain cases figures for individual Central Government items for years back to 1946 appear in Tables 37 to 39, and in these cases too the definitions and descriptions in the following paragraphs have, so far as practicable, been amplified so that they are applicable to the whole of the period 1946-1954.

⁽¹⁾ There is no corresponding statement showing *actual* costs of providing allied services. Consequently an approximate adjustment has to be made to the analysis of "allied services" derived from the published *Estimates* to allow for the fact that the actual expenditure on "common service" Votes may differ from the expenditure on those Votes shown in the *Estimates*.

FINANCE AND TAX COLLECTION

Current expenditure on goods and services

Central Government : Administrative and other expenses of the Treasury, the Board of Inland Revenue, H.M. Customs and Excise and the Exchequer and Audit Department ; management expenses of the National Debt (other than cash payments on conversion of stock) ; expenses of collecting motor vehicle duties and motor vehicle registration⁽¹⁾ ; expenses of collecting broadcast receiving licences.

Local authorities : Cost of rate collection and valuation expenses.

Current grants to persons

Central Government : Payments of post-war credits.

Capital grants

Central Government : Post-war refunds of excess profits tax (after deduction of the income tax payable thereon) ; and cash payments to holders of government securities on conversion into other securities.

Separate figures for the excess profits tax refunds appear in Table 37, Blue Book, 1955.

POLICE

Current expenditure on goods and services

Central Government : Cost of the Metropolitan Police and of certain police services (e.g. training centres) administered by the Home Office ; and the cost of the Royal Ulster Constabulary. The item includes pensions paid to former members of these police forces (*less* employees' superannuation contributions) and pensions of the Royal Irish Constabulary.

Local authorities : Cost of police forces in Great Britain other than the Metropolitan Police, including pensions paid to former members of the police (*less* employee's superannuation contributions).

Gross fixed capital formation (non-trading)

Buildings (including houses), equipment and vehicles for the Metropolitan Police and Royal Ulster Constabulary (Central Government) and for other police forces (local authorities).

PRISONS, COURTS, ETC.

Current expenditure on goods and services

Central Government : Current cost of prisons, law courts and the land registries.

Local authorities : Administration of justice.

Gross fixed capital formation (non-trading)

Central Government : Prison buildings and equipment.

Current grants to persons

Central Government : Grants through the Legal Aid Funds.

⁽¹⁾ These expenses are incurred by local authorities as agents of the Central Government but are reimbursed by the latter.

OVERSEAS SERVICES

The main element comprises the group of services, both at home and abroad, administered by the Foreign Office, the Commonwealth Relations Office and the Colonial Office, with the exception of certain expenditure classified as "military defence" (see below). There is no local authority element.

Current expenditure on goods and services

Besides the expenditure of the departments named in the preceding paragraph, the item includes the expenses of the British Council and the Secret Service, and the payment to the British Broadcasting Corporation for its external services.

Current grants abroad

Current grants to colonial governments (other than those classified as "military defence"—see page 252) and grants under the Colonial Development and Welfare Acts; grants for relief and rehabilitation (International Refugee Organisation, reconstruction in Korea, relief to Palestine refugees, and grants to Malta for war damage)⁽¹⁾; assistance to Yugoslavia and Libya; and contributions to international organisations (United Nations, Organisation for European Economic Co-operation, etc.).

Capital grants

This item is the same as "capital transfers abroad" in the Central Government capital account (Table 38, Blue Book, 1955); see page 211.

MILITARY DEFENCE

The term military defence corresponds, so far as practicable, with the internationally agreed definition used by the North Atlantic Treaty Organisation. Broadly speaking it comprises the expenditure of the three Service departments and the Ministry of Defence, a major part of the Ministry of Supply expenditure, the major part of the expenditure of the United Kingdom Atomic Energy Authority⁽²⁾, and the cost of internal security in certain overseas territories (including certain grants to overseas governments). This definition of defence is considerably wider than that used in the "Defence Budget" in the annual white paper on defence, in that it includes (i) a larger proportion of the Ministry of Supply's expenditure; (ii) a major part—though admittedly a somewhat arbitrarily chosen proportion—of the expenditure of the United Kingdom Atomic Energy Authority charged to the atomic energy Vote⁽³⁾; (iii) allied services rendered to the Service departments etc. by other departments (see page 246); and (iv) the cost of internal security in overseas territories.

The Blue Book figures of defence expenditure include purchases of equipment financed by Defence Aid from America; the receipts of Defence Aid are not deducted but appear separately as an item on the receipts side of the revenue account (see page 199). On the other hand, "end-item" aid

⁽¹⁾ In 1947 and earlier, substantial sums were also granted to the United Nations Relief and Rehabilitation Administration.

⁽²⁾ The rest of the Authority's expenditure is classified to "other industry and trade".

⁽³⁾ No part of the expenditure on this Vote is included in the Defence Budget.

(that is, gifts in kind of finished military equipment) are excluded from defence expenditure and correspondingly from the receipts side of the account⁽¹⁾.

The figures of defence expenditure exclude the cost of the Armed Forces' local requirements in Germany and Austria so far as these have been met at the expense of the German Federal Government and of the Austrian Government.

Royal Ordnance Factories come within the scope of military defence: they are treated as trading undertakings which sell their products to the Service departments "at cost" (which term is taken to include interest on capital and depreciation). Capital assistance schemes and the provision of machine tools (see opposite page) are also regarded as trading activities.

There is no local authority element in military defence.

Current expenditure on goods and services

This comprises:

- (i) Expenditure, both at home and abroad, by the Service departments and the Ministry of Defence, apart from the meteorological service of the Air Ministry (see page 269, item (iv)). It includes expenditure on new defence works (such as barracks and airfields) and on new equipment of all descriptions—none of which is classified as fixed capital formation⁽²⁾. It also includes contributions to the expenses of the North Atlantic Treaty Organisation and expenditure on N.A.T.O. "Infrastructure" projects.
- (ii) Expenditure by the Ministry of Supply on research and development, inspection, storage, hostels, etc., including costs of administration of these programmes.
- (iii) Payments by the Ministry of Supply for defence equipment in excess of the amounts recouped from the Service departments, and from other customers purchasing equipment through the Ministry⁽³⁾. The effect of adding this item to the Service departments' expenditure (item (i) above) is to include in defence expenditure, not the Service departments' payments to the Ministry of Supply, but the Ministry of Supply's payments to defence contractors.
- (iv) The major part of the (current) expenditure of the United Kingdom Atomic Energy Authority (and its predecessors⁽⁴⁾); the rest of the Authority's expenditure is classified to "other industry and trade".
- (v) The net cost to the British Government of the West African forces and internal security in certain overseas territories.
- (vi) Expenditure by the Ministry of Labour on the call-up of National Service men.

⁽¹⁾ In the cases in which the "end-items" are purchased by the United States Government through the agency of the Ministry of Supply or Admiralty, the United Kingdom Government's payments to defence contractors, less the amounts recouped from the United States Government, appear as part of defence expenditure (see particularly item (iii) below).

⁽²⁾ The only expenditure by the Service departments classified as fixed capital formation relates to purchases of land and the erection of married quarters at home.

⁽³⁾ The net payments fall on the Purchasing (Repayment) Services Vote.

⁽⁴⁾ Until 31st December, 1953, atomic energy was the responsibility of a branch of the Ministry of Supply. From 1st January, 1954 to 31st July, 1954 (when the Atomic Energy Authority was set up) responsibility was in the hands of the Atomic Energy Department under the Lord President of the Council.

Gross fixed capital formation (trading)

Land, buildings, works and plant for Royal Ordnance Factories; Ministry of Supply "capital assistance" schemes; and purchases (*less* sales) of machine tools intended for use in Royal Ordnance Factories and in capital assistance schemes. Under the capital assistance schemes buildings and plant are purchased by the Ministry and leased to firms engaged on defence contracts. The whole of this expenditure appears in Table 50 of the Blue Book, 1955, under the heading "manufacturing; government financed expenditure".

The figures for purchases (*less* sales) of machine tools which were employed in compiling the estimates in the Blue Book, 1955 (and previous Blue Books) excluded machine tools imported from the United States under the Mutual Defence Assistance (M.D.A.) scheme; these imports were excluded in error. The table below shows the composition of the series shown in Table 42 of the Blue Book, 1955, and also the addition which requires to be made to correct the error.

Military defence: Gross fixed capital formation (trading)

£ million

	1950	1951	1952	1953	1954
Royal Ordnance Factories	1	3	7	7	6
Capital assistance scheme	1	4	16	20	10
Machine tools excluding imports under Mutual Defence Assist- ance	3	18	17	17	5
Total (as in Table 42, Blue Book, 1955)	5	25	40	44	21
Machine tools imported under Mutual Defence Assistance	3	11	18	8	—
Total corrected	8	36	58	52	21

Gross fixed capital formation (non-trading)

This comprises purchases of land by the three Service departments; the erection of married quarters at home by the Service departments; expenditure by the Ministry of Supply on land, buildings, works and plant for research and development, inspection, storage, hostels, etc.; and the major part of the land, buildings, works and plant for the United Kingdom Atomic Energy Authority (and its predecessors)⁽¹⁾. The analysis of the figures given in Table 42 is as follows:

Military defence: Gross fixed capital formation (non-trading)

£ million

	1950	1951	1952	1953	1954
Land for the Services	3	3	3	2	} 11
Married quarters at home for the Services	7	11	13	11	
Research and development, etc.	6	7	14	14	9
Atomic energy	8	10	13	16	18
Total	24	31	43	43	38

⁽¹⁾ The civil element of capital expenditure on atomic energy is classified under "other industry and trade".

In Table 50, Blue Book, 1955, married quarters appear under "new dwellings", and research and development and atomic energy appear under "manufacturing: government research and development".

Increase in value of stocks

The estimated change in stocks and work in progress at Royal Ordnance Factories.

Current grants to persons

This item consists of National Service Grants and (prior to 1950) release leave pay. The National Service Grants are payments to Service personnel to relieve cases of financial difficulty where Service emoluments are insufficient to meet the men's obligations to their families, etc. Release leave pay (figures for which appear in Table 37, Blue Book, 1955) represents payments made by the Service departments to Service personnel during their period of release leave after the 1939-45 war.

Current grants abroad

Grants to overseas governments towards the cost of maintaining internal security; the principal recipients were Jordan, Malaya and Kenya.

Capital grants

Compensation paid by the Service departments for losses and damage arising from traffic accidents, training, etc.; gratuities for service in Korea; and royalties and awards to inventors paid by the Ministry of Supply. There is also included (prior to 1949) war gratuities and pay credits (i.e. lump sum payments made to Service personnel on demobilisation from the 1939-45 war); figures for war gratuities and pay credits appear in Table 37, Blue Book, 1955.

CIVIL DEFENCE

The Central Government component of this service comprises:

- (i) The civil defence services of the Home Office and the Scottish Home Department, and civil defence expenditure incurred by the following departments (in connection with the public services indicated in brackets):

Ministry of Housing and Local Government and Department of Health for Scotland (water and sewerage).

Health departments (health services and care of the homeless).

Ministry of Transport and Civil Aviation (railways, ports, etc.).

Ministry of Fuel and Power (electricity and gas, and storage and distribution of petroleum).

Ministry of Food⁽¹⁾ (food distribution).

- (ii) The costs of the programme for the procurement and maintenance of strategic reserves of food and raw materials; these costs are borne on the Votes of the Board of Trade (and the former Ministry of Materials), the Ministry of Supply and the Ministry of Food⁽¹⁾.

The local authority component of civil defence consists of the services identified in the *Local Government Financial Statistics* as "civil defence"

⁽¹⁾ Now the Ministry of Agriculture, Fisheries and Food.

and (up to 1946-47) the heading "evacuation of children". The only significant local authority expenditure is in the column "current expenditure on goods and services".

Current expenditure on goods and services

Central Government : The cost of administration and training of, and the cost of stores for, the civil defence services described at (i) on opposite page ; the handling and storage costs of the strategic reserves described at (ii).

Local authorities : See foot of opposite page.

Gross fixed capital formation (non-trading)

Central Government : Expenditure on buildings, vehicles, vessels and electronic equipment for the Home departments' civil defence services ; reserve equipment, etc. for the water and sewerage services and ports ; provision of emergency accommodation at hospitals ; provision of petroleum storage and distribution installations ; and provision of emergency food distribution facilities. The capital grants described below are excluded. The treatment of civil defence capital expenditure in Table 50, Blue Book, 1955, which differs from the treatment adopted in Table 42, is referred to on page 247, item (iii).

Increase in value of stocks

Central Government : Purchases (less sales) of strategic reserves of food and raw materials.

Capital grants

Central Government : Grants to the British Transport Commission and electricity and gas boards towards the cost of civil defence installations.

HOUSING

This service relates to the provision of housing for the general public, including temporary housing and emergency housing. It excludes houses provided by public authorities for their employees, which are shown against the service concerned—for example, married quarters for the Services (which appear under "military defence") and houses for the police. The ownership by public authorities of houses intended for the general public is regarded as a trading activity.

Temporary housing consists of prefabricated structures constructed and erected at Central Government expense on sites provided by local authorities ; the local authorities let the accommodation and make an annual payment to the Central Government as a form of rental. Emergency housing is accommodation provided in requisitioned premises and in ex-Service hutted camps, etc. ; the local authorities let the accommodation as agents of the Central Government, and the government reimburses to the local authorities the full net cost incurred⁽¹⁾.

⁽¹⁾ From 6th June, 1955, responsibility for requisitioned premises (but not hutted camps, etc.) was transferred to local authorities, and from 1st April, 1956, the Central Government will reimburse to the local authorities only a part of the net cost of providing this accommodation.

Current expenditure on goods and services

This item refers to the expenses of the Ministry of Housing and Local Government (and its predecessors) and the Department of Health for Scotland in the administration of their housing responsibilities. Local authorities' administrative expenses are excluded; these are treated as a current expense in the housing trading account, and hence enter into the figure of local authorities' housing subsidies.

Gross fixed capital formation (trading)

Central Government: £2 million in 1950 and £1 million in 1951 is included in respect of the cost of manufacture and erection of temporary houses.

Local authorities: Purchases of land for housing and the cost of construction of permanent dwellings including site development. Sales of houses are deducted.

Subsidies

The composition of the total is shown opposite.

Footnotes to table on page 255 (Housing subsidies)

(1) Includes government contributions towards local authorities' expenditure on grants for the improvement of privately-owned houses, and also subsidies paid, via local authorities as agents, to housing associations, etc.

(2) Direct subsidy payments in respect of houses owned by the Scottish Special Housing Association, the New Town Development Corporations, etc. There is also included certain lump sum payments in respect of newly-built houses (mainly in Northern Ireland), paid to local authorities and others in lieu of annual contributions over a period of years; these payments might more appropriately have been treated as capital grants.

(3) Payments from Housing Votes to the Consolidated Fund in respect of principal and interest on construction costs. The receipt by the Consolidated Fund appears on the income side of Table 37, Blue Book, 1955, as the imputed rental income from the ownership of temporary houses (see page 197).

(4) Reimbursement of the Fund in respect of sales of building materials to, and construction of non-traditional houses for, local authorities at less than cost. (This expenditure might alternatively have been treated as a capital grant to local authorities; the (imputed) receipt of the capital grant by local authorities would then be balanced by an equal amount added to their fixed capital formation.)

(5) Excluding emergency housing, the net cost of which in the period covered by the table was borne by the Central Government.

(6) These also appear on the income side of Table 40, Blue Book, 1955, to represent the imputed gross rental income from the ownership of houses.

(7) Repairs, insurance, cost of rent collection, administration, etc. The item also includes certain expenditure in connection with houses not owned by local authorities, which is reimbursed in whole or in part by the Central Government; namely, grants for the improvement of privately-owned houses and subsidies paid to housing associations, etc.

Housing subsidies

£ million

	1946	1947	1948	1949	1950	1951	1952	1953	1954
<i>Central Government</i>									
Permanent housing:									
Payments to local authorities' revenue account ⁽¹⁾	19	20	23	25	27	30	36	42	49
Other payments ⁽²⁾	3	2	3	2	3	4	5	6	6
Temporary housing:									
Annuities ⁽³⁾	4	13	20	23	23	23	23	23	24
less Receipts from local authorities	-1	-2	-3	-3	-3	-2	-2	-2	-2
Emergency housing:									
Expenses	8	18	17	18	19	16	14	14	15
less Rents, etc.		-6	-6	-8	-10	-9	-8	-8	-9
Payments from Housing Votes to the Building Materials and Housing Fund ⁽⁴⁾	2	1	—	—	—	—	—	—	—
Grants to the National Service Hostels Corporation	1	2	2	2 ⁵	1	1	1	1	1
Net subsidies: Central Government	36	48	56	59	60	63	69	76	84
<i>Local authorities' revenue account⁽²⁾</i>									
Loan charges ⁽⁵⁾	41	45	52	61	69	78	92	105	116
Payments to Central Government for temporary houses	1	2	3	3	3	2	2	2	2
Other expenses ⁽⁷⁾	20	23	26	29	32	38	45	52	60
less Rents, etc.	-34	-39	-46	-55	-64	-73	-84	-95	-106
less Subsidies from Central Government ⁽¹⁾	-19	-20	-23	-25	-27	-30	-36	-42	-49
Net subsidies: local authorities	9	11	12	13	13	15	19	22	23
Total subsidies	45	59	68	72	73	78	88	98	107

For footnotes see page 254.

EDUCATION AND CHILD CARE

This service comprises: education in schools, technical institutions and universities (including physical training and the school health service); museums, libraries and art galleries; the Arts Council of Great Britain⁽¹⁾; approved schools and remand homes; children's homes and other services for the care and welfare of children. The *direct* current cost of providing school meals, milk and welfare foods is excluded here and appears as a separate heading in Table 42 (see next page); but the *administrative* costs of providing school meals, milk and welfare foods and the capital cost of school canteens are included here.

Current expenditure on goods and services

Central Government: The main items are the administrative and other costs of the Ministry of Education and the Scottish Education Department; the cost of maintaining national museums and art galleries; the administrative and other costs of the Arts Council; the excess of the repayment annuities paid by the education departments to the Ministry of Works in respect of the construction costs of temporary school accommodation⁽²⁾ over receipts from local authorities for the use of this accommodation; and the administrative expenses of the former Ministry of Food in connection with milk and welfare food schemes.

The net cost to the Central Government of teachers' pensions⁽³⁾ is regarded as the repayment of a liability; it is therefore excluded from Table 42 and appears in the Central Government capital account (see page 209).

Local authorities: The current cost of education, libraries and museums and protection of children, apart from the cost of school meals and milk and of scholarships and grants to universities⁽⁴⁾. Separate figures for education and for child care appear in Table 40, Blue Book, 1955.

Gross fixed capital formation (non-trading)

The whole of this item relates to local authority expenditure, Central Government expenditure (as here defined) being insignificant in the period from 1950 onwards⁽⁵⁾. School canteens and their equipment financed by the Ministry of Education and the Scottish Education Department are treated in the Blue Book as fixed capital formation in the local authority sector; the payments by the two departments are treated as capital grants to local authorities.

Current grants to persons

Central Government: Scholarships and maintenance allowances; current grants to universities, colleges, technical institutions and schools other than those maintained by local education authorities (including grants to voluntary

⁽¹⁾ The Arts Council is treated as part of the Central Government.

⁽²⁾ These annuities also appear on the income side of Table 37, Blue Book, 1955, as part of gross rental income (see page 197).

⁽³⁾ That is, pensions paid to teachers less pension contributions received from teachers and their employers.

⁽⁴⁾ These costs are treated as current grants to persons.

⁽⁵⁾ In the period before 1950 (not shown in Table 42, Blue Book, 1955) the Central Government incurred substantial capital expenditure on the provision of temporary school accommodation ("Hutling Operation for Raising the School Age"—H.O.R.S.A.). This scheme ended on 1st February, 1952.

approved schools); grants to scientific and learned bodies and grants by the Arts Council to other bodies. Figures for 1946-1954 (including separate figures for scholarships and maintenance allowances) appear in Table 37, Blue Book, 1955.

Local authorities: Scholarships (i.e. cash payments to pupils and students in respect of fees and maintenance allowances) and grants to universities.

Capital grants

Central Government: Grants towards the cost of university buildings and equipment; and grants towards capital expenditure on voluntary schools in Northern Ireland.

SCHOOL MEALS, MILK AND WELFARE FOODS

In the Blue Book the cost to public authorities (after deducting receipts from those receiving meals, milk, etc.) is treated as a current grant to persons, and the full cost of the food is included in consumers' expenditure. The administration costs are included in Table 42 under the service "education and child care"; capital expenditure on school canteens and equipment is also included under "education and child care".

Central Government: The net cost to the (former) Ministry of Food (other than administrative costs) of providing milk and vitamin foods at reduced prices to children and expectant mothers. From 1st October, 1954, the cost of milk in schools maintained by local education authorities, previously borne by the Ministry of Food, was transferred to the local authorities.

Local authorities: The cost of providing school meals, and (from 1st October, 1954) of providing school milk, after deducting receipts from parents.

HEALTH

The major part of the expenditure shown under this heading relates to the National Health Service which came into existence on 5th July, 1948. Other Central Government expenditure included here relates to the medical services provided under the National Health Insurance system prior to 5th July, 1948; medical services provided by the Ministry of Pensions up to and including 1952-53⁽¹⁾; the administrative and other expenses of what is now the Ministry of Health⁽²⁾, and the corresponding expenditure of the Department of Health for Scotland; and the expenditure of the Medical Research Council. Expenditure on civil defence measures is excluded and appears under "civil defence".

The local authority part of health services corresponds to the following items in the *Local Government Financial Statistics*: individual health⁽³⁾, port health service and "other items of public health"⁽⁴⁾. Services provided before 5th July, 1948, which have now become part of the National Health Service, are also included⁽⁵⁾.

⁽¹⁾ Now part of the National Health Service.

⁽²⁾ That is, excluding those parts of the Ministry of Health as constituted up to 1951 which were subsequently transferred to the Ministry of Housing and Local Government.

⁽³⁾ This service relates to the provision of health centres, health visiting and home nursing, care of mothers and young children, ambulance services, vaccination and immunisation, etc.

⁽⁴⁾ This service covers the salaries of Medical Officers of Health and sanitary inspectors, and expenditure in connection with the inspection of foods and drugs, notification of diseases and provision of public lavatories.

⁽⁵⁾ In the *Local Government Financial Statistics* these services are shown under the headings: hospitals, sanatoria, dispensaries, etc.; mental hospitals; mental deficiency; emergency hospitals.

Current expenditure on goods and services

Central Government: The scope of the health services has been defined on page 257. The figures of current expenditure on goods and services include the contributions paid by Regional Hospital Boards, etc., towards staff superannuation; the net cost to the health departments of health service pensions⁽¹⁾ is excluded from current expenditure on goods and services and treated as the repayment of a liability (as in the case of school teachers' pensions—see page 209). The retrospective additions to doctors' incomes arising from the Danckwerts' award have been allocated over the various years since 1948 in the proportions attributable to each year.

Local authorities: Current expenditure on the services defined on page 257.

Gross fixed capital formation (non-trading)

Central Government: Land, buildings, plant and equipment for the National Health Service and the Medical Research Council.

Local authorities: Capital expenditure on health centres, ambulances, public lavatories, etc.

Capital grants

Central Government: Compensation to doctors for the loss of right to sell medical practices.

NATIONAL INSURANCE, PENSIONS AND ASSISTANCE

The Central Government element comprises the services administered by the Ministry of Pensions and National Insurance (including the National Insurance schemes), services administered by the National Assistance Board, and Ministry of Labour services for the disabled. The medical services administered by the Ministry of Pensions up to and including 1952-53 are excluded; they appear under health services.

The local authority element of this service relates to the care of the aged, handicapped and homeless (including the provision of accommodation for these persons). Prior to 5th July, 1948, when the National Assistance Act, 1948, came into force, the services appeared in the *Local Government Financial Statistics* under the headings "relief of the poor" and "welfare of the blind".

Current expenditure on goods and services

Central Government: The administrative expenditure of the National Insurance Funds; the administrative expenses of the Ministry of Pensions and National Insurance other than those charged to the National Insurance Funds; and the cost of administration of the National Assistance Board and running expenses of reception centres.

Local authorities: Current expenditure on the local authority services described above, apart from payments (in cash and kind) of public assistance (outdoor relief). The latter payments, which ceased on 5th July, 1948, are included under current grants to persons.

⁽¹⁾ That is, the actual payment of pensions by the health departments, less the contributions received by the departments from Regional Hospital Boards, etc. and from employees.

Gross fixed capital formation (non-trading)

Local authorities: Land and buildings (and equipment) for the care of the aged, handicapped and homeless, and (prior to 5th July, 1948) for institutions for the relief of the poor⁽¹⁾.

Current grants to persons

Central Government: The composition of the Central Government component is shown in Table 37, Blue Book, 1955, as follows:

National Insurance grants: For further detail of the composition of this item, see Table 39. In Tables 37 and 42 grants paid to non-residents are excluded and appear under "current grants paid abroad". Payments of extended unemployment benefit (which ceased on 5th July, 1953) are included.

War pensions and service grants: Payments of pensions, gratuities and allowances for disablement or death arising out of war, or out of service in the Armed Forces after 2nd September, 1939. Pensions, etc., paid in respect of the mercantile marine and civilians are included. Payments to those no longer resident in the United Kingdom are excluded; they appear under "current grants paid abroad".

Non-contributory pensions: Non-contributory old age pensions paid through the National Assistance Board. Prior to 1st April, 1947, the figures relate to old age pensions and pensions to blind persons paid through H.M. Customs and Excise⁽²⁾.

Assistance grants: Grants paid by the National Assistance Board. Prior to 5th July, 1948, the series relates to supplementary pensions and allowances (including allowances to the unemployed) paid by the Board.

Family allowances

Industrial services to the disabled: Grants paid by the Ministry of Labour to Remploy, Ltd., grants to voluntary bodies in respect of the training of severely disabled persons, maintenance allowances to disabled trainees, etc. The grants to Remploy, Ltd. are here treated as financing the payment to disabled persons in their employ of wages in excess of the market value of the labour.

Local authorities: Public assistance (outdoor relief) in cash and kind. These payments ceased on 5th July, 1948.

Current grants abroad

Central Government: Payments of war pensions and national insurance benefits to those not resident in the United Kingdom.

AGRICULTURE AND FOOD

Though there is some local authority expenditure on the provision of allotments and small holdings, and on animal health and the control of pests, most of the expenditure under this heading is accounted for by the Central Government. The Central Government element covers the services

⁽¹⁾ In Table 50, Blue Book, 1955, the whole of this item appears as part of "health services".

⁽²⁾ Including pensions payable under the Contributory Pensions Acts to persons over the age of 70. From 1st April, 1947, these pensions were charged to the Contributory Pensions Accounts and therefore appear under National Insurance benefits in Table 37.

administered by the Ministry of Agriculture and Fisheries, the Department of Agriculture for Scotland, the Ministry of Food (amalgamated with the agricultural departments since 1st April, 1955), the Forestry Commission, and the fisheries division of the Scottish Home Department. Expenditure by the White Fish Authority, the Herring Industry Board, the Agricultural Research Council and the Development Fund is also included; these bodies are treated as part of the Central Government. Expenditure by the agricultural departments on field drainage is included, but expenditure by them and by local authorities on land drainage (including arterial drainage) and sea defences is excluded from this heading and appears as a separate service. The costs of procuring and maintaining a strategic reserve of foodstuffs and of providing emergency food distribution facilities are excluded; they appear under "civil defence". The cost of the welfare food schemes is also excluded, it appears under the heading "school meals, milk and welfare foods" and (so far as administrative costs are concerned) under "education and child care".

Certain services included in this heading are treated as trading services, namely:

- (i) Ministry of Food transactions, other than the cost of the milk and welfare food schemes and the administrative costs of headquarters and regional and local food offices. The trading losses are treated as subsidies.
- (ii) Certain trading activities of County Agricultural Executive Committees and the farming and management of land by the Agricultural Land Commission.
- (iii) The British Wool Section of the Ministry of Agriculture and Fisheries (to 30th April, 1951).
- (iv) The Forestry Commission.

Current expenditure on goods and services

Central Government: The administrative and other expenses (e.g., research expenditure) of the non-trading elements of the departments and authorities detailed above. The administrative costs of the (former) Ministry of Food at headquarters and at regional and local food offices (but excluding the cost of administering the welfare food schemes) are part of this item.

Local authorities: Net current expenditure on allotments, small holdings, animal health, control of pests, etc.

Gross fixed capital formation (trading)

Central Government: Land, buildings, works and equipment for the Forestry Commission, for trading activities of County Agricultural Executive Committees, and for the Agricultural Land Commission. The cost of planting and maintaining the Forestry Commission's forests appears under the heading "increase in value of stocks".

Gross fixed capital formation (non-trading)

Central Government: Purchases of land and capital works on such land; development of experimental farms; buildings and equipment for the Agricultural Research Council.

Local authorities: Land and buildings for allotments and small holdings.

Increase in value of stocks

Central Government: Changes in the trading stocks of the Ministry of Food, of the County Agricultural Executive Committees and of the British Wool Section of the Ministry of Agriculture and Fisheries; and the increase in the balance sheet value of the Forestry Commission's forests.

Subsidies

Central Government: This comprises:

- (i) The trading losses of the Ministry of Food (as defined in their published trading accounts⁽¹⁾), less the part thereof attributable to (a) the cost of the milk and welfare food schemes⁽²⁾ and (b) administrative expenses at headquarters and regional and local food offices⁽³⁾.
- (ii) Subsidies paid mainly by the agricultural departments and the other authorities detailed on page 260 to the agriculture, forestry and fishing industries. The principal items are:

- a. Fertiliser and lime subsidies: In this are included the molasses "Food for stock" subsidy and the subsidy on fertiliser and nitrogen supplies, both of which are shown as such in the trading accounts of the Board of Trade (later the Ministry of Materials); these subsidies ceased in 1951.

- b. Grants for the improvement and rehabilitation of land, including grants for field drainage and water supply.

- c. Grants and subsidies for: the ploughing of grassland; cultivation of certain crops (acreage payments); maintenance of attested herds (bonus payments); rearing of calves, farrowing sows, hill sheep and hill cattle; improvement of livestock; compensation for slaughter of diseased animals (less proceeds of sales of carcasses); production on marginal land.

- d. Grants for operation of petrol driven machines (in 1950-51 and 1951-52).

- e. Deficits from the trading activities of the County Agricultural Executive Committees.

- f. The white fish subsidy and the Herring Industry Board's deficiency on the conversion of herrings to oil, meal, etc.

- g. Grants by the Forestry Commission to owners of private woodlands.

Figures for 1946-54 are shown in Table 37, Blue Book, 1955.

Current grants to persons

Central Government: Grants to agricultural colleges and research institutions; agricultural scholarships and maintenance allowances; and grants from the Development Fund to encourage the rural economy.

Capital grants

Central Government: Grants towards capital expenditure at agricultural colleges and research institutions.

(1) That is, regarding interest on capital and depreciation as current costs.

(2) The cost of these schemes is here treated as a current grant to persons (see page 257).

(3) Included in current expenditure on goods and services.

FUEL AND POWER INDUSTRIES

This heading relates to the services administered by the Ministry of Fuel and Power (other than those of its "Special Services" classified to civil defence—see page 252), and to local authorities' gas and electricity trading undertakings. Since the nationalisation of gas (1st May, 1949) and electricity (1st April, 1948), gas and electricity services have not been provided by local authorities except in Northern Ireland.

The Ministry of Fuel and Power's responsibility for the production of open-cast coal has been treated as a trading activity, the trading loss being regarded as a subsidy. From 1st April, 1952, the National Coal Board took over responsibility for opencast mining.

Current expenditure on goods and services

Central Government: The administrative and other expenses (e.g. research) of the Ministry of Fuel and Power.

Gross fixed capital formation (trading)

Local authorities: Land, buildings, works and plant for gas and electricity services.

Subsidies

Central Government: Subsidies on indigenous oil, losses on opencast coal production, abnormal coal transport costs and the coal stocking bonus paid to merchants⁽¹⁾.

TRANSPORT AND COMMUNICATION

The Central Government component covers (i) the activities of the Ministry of Transport and Civil Aviation, other than its functions in relation to roads and those "Special Services" classified to civil defence, and (ii) the Post Office.

The Post Office, the operation of ships by the Ministry of Transport and Civil Aviation (for trooping, emigration services and commercial services), and the operation of civil aerodromes are regarded as trading activities.

The local authority component covers their passenger transport and harbours and docks trading undertakings.

Current expenditure on goods and services

Central Government: The administrative and other expenses of the Ministry of Transport and Civil Aviation, other than the part attributable to trading services (see above) and to the Ministry's responsibilities for roads. The item includes the cost of the coastguard and other mercantile marine services and the government's contribution to the cost (both capital and current) of providing aerodromes in the colonies and certain other overseas countries.

⁽¹⁾ In Table 37 of the Blue Book, 1955, fuel and power subsidies have been combined with subsidies to other industry and trade. The figures for fuel and power subsidies from 1946 to 1950 are £ million 10, 9, 5, 2, 1 respectively.

Gross fixed capital formation (trading)

Central Government : The composition is shown below :

Transport and communication: Gross fixed capital formation (trading)

£ million

	1950	1951	1952	1953	1954
Shipping	1	-1	—	—	—
Civil aerodromes	5	4	4	3	5
Post Office	45	52	63	72	73
Total	51	55	67	75	78

Local authorities : Land, buildings, works, vehicles and plant for (i) passenger transport and (ii) harbours and docks. Separate figures for (i) and (ii) are given in Table 41, Blue Book, 1955.

Increase in value of stocks

Central Government : The change in the Post Office's stocks of stores.

Subsidies

Central Government : Subsidies to civil aviation. They comprise :

- (i) Grants towards the operating losses of the Airways Corporations
- (ii) The Ministry of Transport and Civil Aviation's deficit on the operation of civil aerodromes, being the excess of current costs⁽¹⁾ over revenue from landing fees, rents receivable, etc.

Capital grants

Central Government : The principal components of this item are payments to shipowners under the Tonnage Replacement Schemes and payments to the British Transport Commission from the proceeds of the "transport levy". Under the Tonnage Replacement Account Agreement of May 1940, the government contributes towards the cost of building ships to replace those lost during the war whilst on bareboat charter to the government or to replace ships sold to the government. The payments to the British Transport Commission represent compensation for the capital loss sustained by the Commission on the sale of part of its road haulage undertakings (see page 195, footnote ⁽²⁾); no substantial payments were made to the Commission before 1955.

OTHER INDUSTRY AND TRADE

Broadly, the Central Government component comprises: the services administered by the Board of Trade (including the Export Credits Guarantee Department) and by the Ministry of Materials during its period of existence⁽²⁾ and a part of the services administered by the Ministry of Supply. The Ministry of Supply services referred to are those (principally trading in raw materials,

⁽¹⁾ Current costs taken into account include, *inter alia*: administration; costs of air traffic control, telecommunication and meteorological services attributable to aerodrome approach, landing and take-off; interest on capital and depreciation.

⁽²⁾ The Ministry came into being on 12th July, 1951, when it took over certain of the functions of the Board of Trade and Ministry of Supply. On 16th August, 1954 its functions were transferred to the Board of Trade.

assistance to industry and iron and steel scrap recovery) subsequently transferred to the Ministry of Materials and the Board of Trade. In addition there is included the expenditure of the Department of Scientific and Industrial Research, the Government Chemist, the civil element of the expenditure of the United Kingdom Atomic Energy Authority⁽¹⁾, and certain trading activities referred to below. The procuring and maintenance of strategic reserves of materials by the Board of Trade, Ministry of Supply and Ministry of Materials is excluded; this expenditure is included under "civil defence".

The following are treated as trading activities within this heading:

- (i) The Exports Credits Guarantee Department;
- (ii) the divisions of the Board of Trade, Ministry of Supply and Ministry of Materials trading in raw materials and other commodities;
- (iii) the provision by the Board of Trade of factories for lease etc. in Development Areas and the provision of factories by the Ministry of Commerce in Northern Ireland;
- (iv) the United Kingdom-Dominions Wool Disposals Ltd.⁽²⁾; and
- (v) the State Management Districts.

The local authority component of this service relates to the trading undertakings not included under other services. These undertakings appear in the *Local Government Financial Statistics* (England and Wales) under the descriptions: cemeteries, civic restaurants, markets, general corporation estates and miscellaneous trading.

Current expenditure on goods and services

Central Government: Administrative costs and other expenses (e.g. costs of research establishments, net costs of scrap recovery programme) in connection with the Central Government services described above. Payments to certain independent bodies such as the British Travel and Holidays Association, treated in the Blue Book as serving industry (see Chapter VIII, Annex 2, page 225), are included.

Gross fixed capital formation (trading)

Central Government: Mainly land, buildings and equipment for factories erected by the Board of Trade in Development Areas and by the Ministry of Commerce in Northern Ireland.

Local authorities: Land, buildings and equipment for the local authority trading services referred to above.

Gross fixed capital formation (non-trading)

Central Government: Land, buildings and equipment for research establishments of the Department of Scientific and Industrial Research and a part of the land, buildings and plant for atomic energy research and production establishments.

⁽¹⁾ Including the corresponding part of the expenditure of the atomic energy division of the Ministry of Supply in the period before the Authority was set up.

⁽²⁾ This organisation was set up with effect from 1st August, 1945 jointly with certain Dominion governments, to dispose of surplus stocks of wool remaining unsold in the hands of H.M. Government at the end of the 1939-1945 war. The surplus wool was disposed of by December 1951 and the organisation was then wound up.

Increase in value of stocks

Central Government: The change in stocks of raw materials held by the trading divisions of the Board of Trade, Ministry of Supply and Ministry of Materials, and the change in wool stocks of the United Kingdom-Dominions Wool Disposals Ltd.

Subsidies

Central Government: This comprises:

- (i) Deficits on trading in certain raw materials⁽¹⁾ borne by the Board of Trade, Ministry of Materials and Ministry of Supply.
- (ii) Subsidies paid by the Board of Trade to the manufacturers of cotton and wool utility cloth (utility cloth rebates).
- (iii) Assistance to industry by the Ministry of Supply; this covers:
 - a. Iron and steel: cost of abnormal freight on iron ore, assistance to home producers of iron ore, import duties on finished and semi-finished steel and pig iron, losses on sale of certain high cost steel.
 - b. Losses on production of magnesium and aluminium (until 1948).
 - c. Assistance to the watchmaking industry.

Subsidies to other industry and trade⁽¹⁾

£ million

	1946	1947	1948	1949	1950	1951	1952	1953	1954
Government trading in raw materials . . .	19	19	18	10	7	6	—	—	—
Utility cloth rebates . . .	8	16	7	—	—	—	—	—	—
Assistance to industry by Ministry of Supply . . .	7	8	7	4	2	4	11	—	—
Total	34	43	32	14	9	10	11	—	—

⁽¹⁾The figures for "other industry and trade" in Table 37, Blue Book, 1955, also include subsidies on fuel (see footnote on page 262).

Current grants to persons

Central Government: Grants paid by the Department of Scientific and Industrial Research to persons and institutions engaged in research.

Capital grants

Central Government: Grants by the Board of Trade towards the cost of re-equipment of the cotton spinning industry; grants by the Ministry of Commerce in Northern Ireland towards the cost of re-equipping industry; grants by the Department of Scientific and Industrial Research to bodies engaged in research towards the capital cost of laboratories and equipment.

⁽¹⁾Wool, leather, home-produced flax, iron and steel, non-ferrous metals, abrasives and refractories, ethyl chloride and silicon.

EMPLOYMENT SERVICES

Employment services are the services administered by the Ministry of Labour and National Service with the exception of (i) services to the disabled (included under "National insurance, pensions and assistance"), (ii) the call-up of National Service men (included under "military defence") and (iii) subsidies to hostels (included under "housing"). Although a substantial number of local authorities carry out services in connection with youth employment, the expenditure does not at present appear in the Blue Book under "employment services", since comprehensive figures for this service do not appear in the *Local Government Financial Statistics*. All the expenditure shown here under "employment services" therefore relates to the Central Government.

Current expenditure on goods and services

The administrative and other expenses in connection with the services described in the preceding paragraph.

Current grants to persons

Travelling and maintenance allowances to transferred workers and trainees; fees for training courses; payments to employers under the Interrupted Apprenticeship schemes. The latter payments are treated as financing the payment by employers to apprentices of wages in excess of the market value of the labour.

ROADS AND PUBLIC LIGHTING

The Central Government component of this heading covers the administrative activities of the Ministry of Transport and Civil Aviation in connection with roads in general (other than the costs of collecting motor vehicle duties and of motor vehicle registration, which are included under "finance and tax collection"), and the direct responsibilities of the Ministry for the provision and maintenance of trunk roads⁽¹⁾. The accounts of the Road Fund are consolidated within this heading.

The local authority element consists of roads other than trunk roads (including scavenging), private street works⁽²⁾, and public lighting.

Current expenditure on goods and services

Central Government: Administrative expenditure of the Ministry of Transport and Civil Aviation in connection with roads; cost of surveys and research; maintenance, minor improvement and lighting of trunk roads.

Local authorities: Cost of maintaining and cleansing roads (other than trunk roads) and public lighting. Separate figures for roads and for public lighting appear in Table 40, Blue Book, 1955.

Gross fixed capital formation (non-trading)

Central Government: Cost of construction and major improvement of trunk roads, including purchases of land.

(1) Local authorities act as agents of the Ministry in maintaining trunk roads.

(2) This item relates to works carried out by local authorities on private roads. The cost is reimbursed by the private interests concerned (i.e. those with a frontage on the road), in some cases over a period of years. On completion of the work of making up a road, the local authority usually "adopts" the road and takes over responsibility for its future maintenance.

Local authorities: Cost of construction and major improvement of roads other than trunk roads, including purchases of land; capital expenditure on private street works⁽¹⁾; capital expenditure on public lighting.

FIRE SERVICE

The expenditure shown has been incurred by local authorities. There was no significant expenditure by the Central Government in the period covered by the series (apart from grants to local authorities).

Current expenditure on goods and services

The current cost of maintaining the fire service. It includes pensions paid to retired members of the fire service, less employees' contributions.

Gross fixed capital formation (non-trading)

Land, buildings, vehicles and equipment for the fire service.

WATER, SEWERAGE AND REFUSE DISPOSAL

The whole of the expenditure shown is incurred by local authorities. Water is treated as a trading service. Expenditure on civil defence measures in connection with water and sewerage are excluded; they appear under "civil defence".

Current expenditure on goods and services

The current cost of the sewerage and refuse disposal services.

Gross fixed capital formation (trading)

Land, buildings, works, plant and mains for local authorities' water undertakings.

Gross fixed capital formation (non-trading)

Land, buildings, works, plant, mains and vehicles for sewerage and refuse disposal services⁽²⁾.

LAND DRAINAGE AND COAST PROTECTION

The expenditure shown has been incurred by local authorities (mainly river boards). There was no significant expenditure by the Central Government (apart from grants to local authorities). Field drainage is excluded; it appears under "agriculture and food".

Current expenditure on goods and services

The current cost of maintaining arterial drainage systems, sea defences, etc.

Gross fixed capital formation (non-trading)

Capital cost of land drainage schemes and sea defences. The substantial increase in expenditure between 1952 and 1953, which appears also in the series for current expenditure on goods and services, is due mainly to the reconstruction work arising from the East coast floods of February 1953; the way local authorities have divided their reconstruction expenditure between current and capital has probably involved an element of arbitrariness in many cases.

⁽¹⁾ In Table 50, Blue Book, 1955, capital expenditure on private street works and capital expenditure on refuse disposal services are included under "other local authority services".

TOWN AND COUNTRY PLANNING, PARKS, ETC.

The Central Government component relates to: (i) the expenditure of the Ministry of Housing and Local Government⁽¹⁾ in connection with town and country planning, town development and national parks, and the corresponding services of the Department of Health for Scotland; (ii) expenditure on Royal Parks and Pleasure Gardens; (iii) the Central Land Board; (iv) the Ordnance Survey; (v) the Nature Conservancy; and (vi) expenditure in connection with the preservation of historic buildings and ancient monuments.

The local authority element comprises town and country planning; parks, pleasure grounds and open spaces; and baths, washhouses and open bathing places.

Current expenditure on goods and services

Central Government: Administrative costs and other expenses (e.g., survey costs, cost of maintaining parks) in connection with the Central Government services described above; contributions towards the cost of employing professional advisers, paid by the Central Land Board to those claiming depreciation in land values, are included.

Local authorities: The current cost of the local authority services described above.

Gross fixed capital formation (non-trading)

Local authorities: Land, buildings, etc., for the local authority services described above.

WAR DAMAGE COMPENSATION AND DISPOSAL OF SURPLUS
WAR STORES IN THE UNITED KINGDOM

These two items, both relating to the Central Government, have been shown in a single line to save space. The former appears in the column "capital grants"; the latter in the column "increase in value of stocks". In both cases the administrative costs appear under other headings. Thus the administrative costs of the Ministry of Supply in connection with disposals is included mainly under "military defence"; the War Damage Commission's administrative costs are included under "other services".

Disposal of surplus war stores in the United Kingdom

See page 211.

War damage compensation

This comprises the payments listed on pages 203-204, exclusive of payments to local authorities.

OTHER SERVICES

The Central Government element comprises:

- (i) Expenditure to provide for the Crown, including payments on account of the Civil List and expenses of the Coronation.
- (ii) Expenditure to provide for the Houses of Parliament, and electoral expenses.

(¹) Formerly the Ministry of Town and Country Planning.

- (iii) The headquarters administrative expenses of the Home Office and Scottish Home Department⁽¹⁾.
- (iv) Expenditure of a number of government departments and bodies not included elsewhere, the principal ones being the Treasury Solicitor; the Cabinet Office; the Registrars General; the Civil Service Commission; the Imperial War Graves Commission; the War Damage Commission ⁽²⁾; Royal Commissions; and the Meteorological Office of the Air Ministry.
- (v) Expenditure, mainly by the Ministry of Housing and Local Government, on flood emergency services, and grants for the relief of flood distress.
- (vi) Expenditure on the 1951 Festival of Britain.

That part of the expenditure on "common services"⁽³⁾ which represents current expenditure on goods and services has been reallocated to the various public services making use of the facilities provided, as explained on page 246; but other expenditure on common services—such as gross fixed capital formation—is included under this heading. The principal common service item included here is capital expenditure on public buildings.

The local authority element of this service corresponds to the following items in the *Local Government Financial Statistics* for England and Wales (1953-54): registration of electors, council elections, weights and measures, registration of births, deaths and marriages, emergency residual services other than emergency housing, general administrative expenses and miscellaneous.

Current expenditure on goods and services

Administrative and other expenses of the Central Government and local authority services described above.

Gross fixed capital formation (non-trading)

Central Government: Mainly capital expenditure by the Ministry of Works on land, buildings, furniture and equipment for public buildings in the United Kingdom⁽⁴⁾.

Local authorities: Mainly land, buildings and equipment for local government offices.

Current grants to persons

Central Government: Miscellaneous grants including grants for the relief of flood distress.

Capital grants

Central Government: Miscellaneous grants.

(1) The Home departments' other expenditure (e.g. on civil defence, prisons) appears elsewhere.

(2) Payments of war damage compensation are excluded; they appear separately elsewhere (see opposite page).

(3) The principal common services are listed in the footnote on page 246.

(4) Including Royal Palaces and the Houses of Parliament.

4. PUBLIC AUTHORITIES' CURRENT EXPENDITURE ON GOODS AND SERVICES DEFLATED TO CONSTANT PRICES

Rough calculations (shown in Table 12 of Blue Book, 1955) are made of current expenditure on goods and services by public authorities at constant (1948) prices. The principles underlying these estimates of real expenditure are consistent with those underlying the corresponding estimates of the output of public authorities which are described in general terms on page 42 (and in more detail in Appendix IV on page 355).

Purchases of defence equipment by public authorities—the most important purchases of goods from other sectors—are measured in real terms consistently with the corresponding indicators of the volume of output used in the index of industrial production.

For expenditure on the National Health Service, on education and on certain other services, the indicators of real output are also used as indicators of real expenditure. Expenditure on most other services consists principally of wages and salaries paid to the direct employees of public authorities including the Forces; estimates of real expenditure are obtained either by taking the number of persons employed or by deflating actual expenditure by a rough index of rates of pay.

The price index implied by the comparison between real expenditure of public authorities and their expenditure at current prices is, of course, dependent on the particular indicators used to represent real expenditure. Different methods of estimating real expenditure might produce a different apparent price index.

5. ANALYSES OF THE INCIDENCE OF TAXATION

In addition to the analysis of the expenditure of all public authorities, the section of the Blue Book on the combined public authorities contains two tables showing the incidence of taxation on the economy. The first table (Table 43 of the Blue Book, 1955) shows the forms of income and property on which taxes on income, National Insurance contributions and taxes on capital fall. These are treated as taxes levied by the Central Government. The second (Table 44) shows the incidence on various forms of expenditure of taxes on expenditure and subsidies. The local rates and local authorities' subsidies (to housing) are taken into account as well as Central Government taxes and subsidies. The tables are described below.

TAXES ON INCOME, NATIONAL INSURANCE CONTRIBUTIONS AND TAXES ON CAPITAL: ALLOCATION BY TYPE OF INCOME, PROPERTY AND SECTOR

Table 43 brings together the different forms of direct taxes on income and capital, and analyses them according to the type of income or property on which they fall. The figures refer to payments in the year, and not to the provision for tax arising from the income earned, nor to the tax legally payable to the government during the year.

The allocation of tax incidence by type of income presents some difficulty because the taxpayer is assessed on his *total* income, irrespective of its source. Hence if an individual receives both a salary (or wage) and an investment

income the questions arise (a) whether the tax-free allowances should be set against his salary or his investment income, (b) whether, if he is liable to surtax on the top slice of his total income, the surtax should be regarded as falling on his salary or his investment income. These questions can be answered only arbitrarily. The theoretical basis adopted is that the tax on a mixed income should be allocated pro rata to its various constituents, except that certain transfer incomes⁽¹⁾ (in so far as they go to persons liable to tax) are regarded as marginal incomes and therefore bear a marginal rate of tax (i.e., the rate chargeable on the topmost slice of income). Full data for this calculation are not available but it is believed that the income tax appropriate to rents, civil employment income and pay of the Forces follows very closely that actually paid under Schedule A, under Schedule E by civilians and under Schedule E by the Forces respectively (for whom separate accounts are kept); estimates can be made for taxes on excess rents charged under Schedule D and on the transfer incomes previously mentioned. There is no good basis, however, for imputing a division of Schedule C and Schedule D tax between profit incomes and interest and dividends. The apportionment of surtax is based on the figures in the income "census" for 1949-50.

The estimate of tax incidence on the different sectors of the economy is also shown. The methods by which the tax incidence on each sector is computed are described for persons on page 63, for companies on page 166, and for public corporations on page 174.

TAXES ON EXPENDITURE AND SUBSIDIES: ALLOCATION BY TYPE OF EXPENDITURE⁽²⁾

For estimating each form of final expenditure at factor cost, the total taxes on expenditure and subsidies must be split between the different forms of expenditure. Certain taxes and subsidies (e.g. Customs and Excise duties on drink and tobacco, most purchase tax and the greater part of the food subsidies) can fairly clearly be allocated to specific forms of final expenditure. Difficulty arises however in the allocation of taxes (and of certain subsidies) falling, not directly on some specific form of final expenditure, but wholly or partly on "intermediate" products. Thus tax on motor fuel, so far as it falls on fuel used by business, is a tax on an intermediate product, and, so far as it falls on fuel used by private motorists, is a tax on consumers' expenditure. Local rates on business properties are another example of a tax whose incidence is spread over a wide variety of final expenditures. In such cases the allocation of taxes between the final expenditures on which they *ultimately* fall is somewhat arbitrary and not much significance can be attached to the precise figures. Some notes on the allocation of taxes and subsidies on consumers' expenditure will be found on page 94.

⁽¹⁾ Transfer incomes here include family allowances, release pay and certain small pensions, but exclude dividends and interest.

⁽²⁾ See Table 44 of Blue Book, 1955.

Chapter XI

Capital Accounts and Capital Formation

1. GENERAL DESCRIPTION

Measurement of investment and capital formation may be considered from two points of view. First, the amount of investment may be related to the size of the gross national product; the amount of investment is a measure of the resources applied to the renewal and expansion of the nation's productive assets at home and abroad. The comparison shows at the same time the proportion of income devoted to saving as distinct from current consumption. Secondly, the amount of investment in a year may be related to the existing stock of productive assets—to the national wealth. This relationship cannot at present be established from the official statistics for the United Kingdom, partly because no up-to-date estimate of the national wealth has been made⁽¹⁾, partly because no official estimates have been made of the amount of capital used year by year (see page 273), and partly because the statistics record actual transactions but not changes in market values (except in the case of stocks). Nevertheless, the measurement of the gross increase in assets is an essential stage in the measurement of changes in the national wealth and the concepts employed are designed to fit a "national balance sheet" that might be constructed on social accounting principles.

Three classes of assets are distinguished in the estimates of investment:

a. "*Fixed assets*"—those productive assets that yield a continuous service: plant, machinery, vehicles, buildings and land⁽²⁾.

b. "*Stocks and work in progress*"⁽³⁾—assets that can be used only once, such as coal awaiting consumption, goods in the shops and factories awaiting sale, or partly finished products in the factory awaiting completion.

c. "*Financial assets* (or claims)—such as cash, bank advances and deposits, shares and trade credits.

The word "investment" normally embraces investment in all classes of assets, physical or financial. The term "capital formation" is used here to distinguish investment in physical assets—fixed assets and stocks and work in progress—from investment in financial assets.

Changes in the first two classes of assets—both of which are real, or physical, assets—are measured in some detail. But information about changes in financial assets is at most points insufficient to allow more than indirect

(1) The last detailed estimate of the national wealth referred to 1932-34 (*Public and Private Property* by H. Camplin, 1939). An approximate balance sheet of the national capital in 1947-49, related to social accounting principles, is to be found in *The Social Framework* by J. R. Hicks (Second edition, 1952). Estimates of the value of fixed assets in the United Kingdom in 1938 and in 1948-53, at current and constant prices, together with estimates of the corresponding net investment and capital consumption, are to be found in 'Net Investment in Fixed Assets in the United Kingdom, 1938-1953', by P. Redfern, *Journal of the Royal Statistical Society, Series A, Part 2*, (1955).

(2) For the special treatment of purchases of land and of other existing assets, see page 283.

(3) For brevity, frequently referred to below as "stocks", which should normally be taken to include work in progress.

estimates of changes in the net position of particular sectors of the economy ; it has not yet been possible to carry very far in the United Kingdom the analysis of financial flows, which requires much more data about inter-sector financial transactions. It will be realised that financial assets are in every case balanced by a corresponding liability. A share is an asset to the owner but a liability to the enterprise issuing it ; a bank deposit is an asset to the depositor but a liability to the bank ; currency is an asset to the holder, and is treated as a liability to the issuing authority. Hence, in a completely closed economy, the net financial assets of the nation would be nil. The interest in the analysis lies first in the changes in the net assets of a particular sector of the economy (e.g., in the net financial claims of the personal sector or the company sector), and secondly in the net assets of the nation as a whole, i.e. its net claims on the rest of the world.

There are, of course, some forms of "wealth" which, however important, are not capable of measurement—such as the health of the population, its technical knowledge, its heritage of literature and music. There are others which fall within the sphere of accountancy—"intangible" assets such as patents, copyrights, concessions, leaseholds, "goodwill"—and which might be measured ; in fact no attempt is made to specify changes in these assets.

The measurement of changes in fixed assets is necessarily confined to changes in assets located in the United Kingdom ; not enough is known about changes in fixed assets owned by United Kingdom residents and located overseas, nor in those owned by non-residents and located in the United Kingdom. The measurement of changes in stocks inevitably takes account of some, but probably not all, changes in stocks located abroad. Changes in most categories of financial claims on non-residents, and of financial liabilities towards non-residents, are not known in detail.

Hence the only categories into which the nation's investment can be divided, with present knowledge, are:

- a. changes in all fixed capital assets located in the United Kingdom (some of which belong to non-residents), which can be analysed in some detail ;

- b. changes in all stocks located in the United Kingdom (some of which may belong to non-residents), and in some but probably not all stocks owned by United Kingdom residents but located abroad ; these can also be analysed in some detail ;

- c. a single figure (obtained as a residue—although certain elements in it can be identified), of the net changes in the sum of the following assets : financial claims on, *less* liabilities towards, non-residents ; fixed assets located abroad, and probably some stocks located abroad ; *less* fixed assets, and possibly some stocks, located in the United Kingdom but owned by non-residents.

Depreciation

The information provided at present in respect of fixed assets falls short, in one very important respect, of what is required to produce an adequate account of changes in the nation's wealth—or indeed, as was pointed out on page 6, of the size of the national income. This is the difficulty of measuring the annual consumption of fixed capital assets, that is of depreciation.

The provision for depreciation reported in the accounts of enterprises is in nearly all cases related to the original cost of the assets; essentially it represents an annual provision related to the original outlay of money. For estimating changes in national wealth, a measure is required which is related more closely to a *current* valuation of the use of assets (for example, to their current replacement cost)⁽¹⁾. In a period of changing prices, accountancy data based on original costs are not appropriate for national income measurement, and until estimates of depreciation at replacement cost can be incorporated in the statistics, it is preferable to make no attempt to estimate the cost of the current use of fixed assets. Hence, throughout the Blue Book tables, only *gross* fixed capital formation is measured⁽²⁾. For estimating the additions to wealth, it would be necessary to deduct an estimate of depreciation, or current use of assets, to yield a figure of *net* fixed capital formation.

An element of depreciation may also arise in the case of stocks and work in progress. Normally, however, accounting data derived from a revaluation of the stock in hand automatically take into account any such depreciation due to losses or physical deterioration.

Stock appreciation

A similar, but not wholly analogous, problem arises in the measurement of changes in stocks. For national income purposes, the change in national wealth in the form of stocks during a year should be measured in terms of the prices current during the year, like all other transactions. The normal accounting data which must in practice be used for most forms of stocks, however, are based on valuations which may be substantially different. This is discussed in more detail on pages 309-313. The point to be made here is simply that important adjustments must be made on a very arbitrary basis to the original data about stock changes in order to yield the figure required of the value of the physical increase in stocks. These adjustments are not shown except for broad categories of stocks; they are not given in detail industry by industry because of their unreliability.

The same sort of difficulty can arise in the detailed measurement of changes in some types of financial assets and liabilities, e.g. changes in holdings of marketable securities. In fact the statistics in the Blue Book relating to changes in financial assets all represent actual purchases *less* sales, and no allowance is necessary for the analogous "appreciation" of securities and similar assets.

The sources of data

The sources of data used are described in detail in later sections of this chapter. It is important to realise from the outset that most, although not all, of the statistics on capital formation are now drawn from what are essentially accounting data relating to capital expenditure by the users of fixed assets, and to accountancy valuations of changes in stocks; these are derived from the

⁽¹⁾ A set of detailed estimates of capital consumption at current prices is included in the paper by P. Redfern referred to in footnote (1) on page 272.

⁽²⁾ The available data about depreciation provisions (mainly statutory allowances for income tax) are described on page 307. The figures, as described there, are given in notes to the Blue Books (e.g. Blue Book, 1955, page 66) but are not incorporated in the national income tables.

census of production, published accounts, and other records of capital expenditure. One consequence of the use of accounting data for measuring stock changes has just been indicated. The use of accounting data for fixed capital expenditure also has important implications. By comparison with the principal alternative, which is the measurement of the supply of capital equipment from figures of production, imports and exports, the advantages of capital expenditure data are: first that they are consistent with statistics of profits or other incomes of the enterprises making the capital expenditure and therefore with estimates of saving—in other words that current costs and capital costs are consistently defined; and secondly that they permit, as supply data cannot, an analysis of the capital formation according to groups of users of capital assets (industries, sectors, etc.).

On the other hand, expenditure data relating to fixed assets have two drawbacks. First they do not as a rule permit more than a summary split of capital formation by type of asset (buildings, plant, vehicles, etc.); existing accounting and statistical systems do not require purchasers to list their capital purchases in great detail, whereas supply data are much more elaborate. Secondly, it is impossible to define at all precisely what kinds of assets are regarded as capital assets; there is a margin (e.g. between repairs and improvements, or between replacement parts and new machines) within which the line will be drawn at different points by different concerns. Thus a large firm might charge office furniture directly to revenue whereas a small firm would treat it as a fixed asset. The conventions of commercial accounting must be accepted, but the elasticity of those conventions destroys the possibility of rigid definitions⁽¹⁾. It is general in accounting practice to include in fixed assets only those items of plant and equipment which last for several years⁽²⁾ and which are costly; it is usual to charge directly to operating account expenditure on items of plant and equipment which, though durable, are not costly (e.g. rulers, electric lamps or even hand tools) and expenditure on items which though relatively costly have a life of only a year or so (e.g. special tools and jigs intended for use in a particular production run of short duration).

There are certain problems of demarcation between "fixed assets" and "stocks", arising in the case of buildings and other assets with long periods of production. When a building, or a ship, is in course of construction at the accounting date, it might be treated either as a fixed asset, although only partially complete, of the purchaser, or as part of the work in progress of the producer. The convention to be adopted is not wholly a matter of choice; regard must be paid to the data available, which, as just pointed out, must often mean accounting data. The usual practice in such cases is that progress payments are made by the purchaser covering a proportion (generally a high proportion) of the work actually done, and such progress payments are normally regarded by him as capital expenditure. Fixed

(1) A measure of uniformity of practice prevails on account of the rules laid down for tax purposes for distinguishing fixed assets from stocks and items chargeable directly to revenue, but this does not preclude the enterprise from following different rules in making up its own accounts; rough tests suggest, however, that such differences of treatment between an enterprise's own accounts and the accounts prepared for the taxation authorities are small in respect of both fixed capital expenditure and changes in the value of stocks.

(2) As distinct from the convention suggested in the U.N. *System of National Accounts* which recommends that fixed assets should be those with a life of more than one year.

capital expenditure can thus in general be taken to approximate to (but not to measure precisely) the value of work done in the year on fixed assets.

It must, however, be pointed out that the census of production returns, which are the main source for the estimates of changes in work in progress in manufacturing industry, do not exclude under work in progress work for which progress payments have been received by the producer of capital goods. There is, therefore, a certain amount of duplication between the estimates of fixed capital expenditure and the estimates of the increase in stocks and work in progress. The amount of such duplication cannot be determined but is probably small. (See page 316.)

A less important problem of demarcation between fixed assets and stocks arises in agriculture and forestry. Changes in quantity or value of growing crops, livestock of all kinds (some of which might be regarded as analogous to "fixed assets") and standing timber are treated as changes in stocks (see page 320.)

The scope of the terms wealth and capital formation is narrowed by two conventions. Firstly, the terms exclude all real assets owned by persons (other than unincorporated businesses) with the exception of land and dwelling-houses (see page 61). Capital formation is thus reckoned on the assumption that goods other than land and houses purchased by persons as consumers are "consumed" at the moment of acquisition, even though many consumer goods may last for years. Secondly, all stocks held by public authorities, except strategic stocks and stocks held by trading branches, are excluded. These conventions are adopted on grounds of convenience rather than of principle. In the present state of knowledge it would be quite impracticable to attempt to measure changes in household stocks of durable or other consumer goods, or to measure changes in public authorities' stocks of paper or road-making materials.

2. THE CAPITAL ACCOUNTS IN GENERAL

Present information is sufficient to give detailed capital accounts for the Central Government (Table 38 of Blue Book, 1955) and public corporations (Tables 34 and 36), a summary capital account for local authorities (Table 41) and certain elements in the capital account for persons (Table 27). It is however possible to bring together very summary capital accounts for every sector, and for the national as a whole. This is done in Table 45⁽¹⁾ which is set out on the next page.

(¹) It is also done, in even more summary form, in the combined capital account (Table 6).

Essentially, this table shows for each sector and for the nation as a whole: on the left-hand side, the funds available for investment; these are derived chiefly from savings on current accounts but include also certain transfer receipts of a capital nature; and on the right-hand side, the forms in which these funds are invested—principally in physical assets in the United Kingdom (fixed capital formation or stocks), but also in financial assets and overseas investment. The weakness of the table, as a capital account, is that the figure of "net acquisition of financial assets *plus* net overseas investment" is generally obtained as a residue and can be given only as a *net* figure. In fact, it summarises in one figure very substantial amounts of both borrowing and lending (as is shown, in particular, by the full capital account for Central Government given in Table 38). Table 45 shows, for example, that in 1954 the company sector was able to increase its "financial assets" (i.e., its net lending to other domestic sectors and its cash), and its investment abroad, by £323 million in addition to financing its gross capital formation; an adequate capital account would show that this last figure was the result of substantial borrowing by companies from other sectors, for example, by public issues or mortgages, more than offset by lending (in the form of investments, etc.) and repayments of debt. Information about borrowing and lending between sectors is at present far too incomplete to make possible such a systematic presentation of the gross flows of funds.

The principal features of the table are therefore:

- the contribution of each sector to the total savings of the nation;
- the contribution of each sector to gross domestic capital formation;
- the extent to which each sector *on balance* contributes by way of lending to the capital formation of the other sectors, or draws on their savings.

In an economy with no international transactions, the sum of the net lending and borrowing by the separate sectors would of course be zero. The balance shown in the last column represents, however, the net overseas investment of all sectors, i.e., investment in real assets located overseas *plus* net increase in United Kingdom claims on the rest of the world.

The individual items in the table are described in the following paragraphs. All the items are drawn from other tables in the Blue Book (except the receipts of capital transfers by companies, which are not shown elsewhere).

Saving, before providing for depreciation and stock appreciation

These are the excesses of current income over current outlay, brought in from the current income and expenditure accounts of the various domestic sectors (for persons, from Table 2, for companies from Table 29, for public corporations from Table 33, for local authorities from Table 40); in the case of the Central Government, whose "revenue account" shown in Table 37 is not quite comparable with other current accounts⁽¹⁾, the figure of saving brought forward is the "surplus" *less* the receipts from taxes on capital *plus* the transfers to capital accounts. These figures of saving are shown before providing for depreciation⁽²⁾ and stock appreciation.

⁽¹⁾ For reasons explained on page 189.

⁽²⁾ Except for companies operating overseas; in these cases, for consistency with the balance of payments estimates, the profits are struck *after* depreciation allowances (generally statutory allowances).

The savings of persons, companies and public corporations, as explained in the notes on the tables from which they are drawn, are estimated after deducting *accrual* of taxes arising from each year's income, since it is felt that such accrual—rather than taxes actually paid which may relate to the income of earlier years—is the more significant charge against the current year's income. On the other hand, the saving of the Central Government is reckoned after crediting only the taxes actually *received*. The difference between the tax accruing on the income of the taxpaying enterprises and the taxes actually paid is treated as though transferred from the appropriation accounts of the enterprises not to Central Government but to a notional tax reserve; it is nevertheless a source of funds for temporary investment. Hence the payments into this "reserve", which cannot properly be attributed to the income and saving of either the taxpaying, or the tax receiving sectors, are shown as a separate column in Table 45, as though this reserve were a separate "sector". The additions to tax reserves are combined, in this column, with the analogous difference between provision for interest and dividends and actual payments. These additions to reserves appear again on the right-hand side of the table. They are there brought back into the "investment" of the sectors assumed to be making the allocations to reserves (since the tax and dividend reserves are in fact still in the hands of those sectors) and are shown as contributing to the net change in their financial assets.

The "residual error", the nature of which is explained on page 33, must also be brought into the table. It is regarded (when positive) as a form of income, and thus of saving, not attributable to any sector and reappears in the residual item, again not being attributable to any sector. It is introduced in the table to preserve the consistency of the totals for the nation as a whole with those shown elsewhere in the Blue Book.

Taxes on capital

These are death duties and the Special Contribution, which are regarded as payments from the capital account of persons and are shown as Central Government revenue in Table 37.

Capital transfers (net receipts)

These are transfer payments of a capital nature. They consist principally of the following transfers to or from the Central Government: (a) capital grants by the Central Government to other domestic sectors (chiefly war damage compensation payments⁽¹⁾), which are entered in Table 37 and described on page 203; (b) capital payments abroad by the government entered in Table 38 and described on page 211; and (c) capital receipts by the Central Government from abroad (E.R.P. grants, gifts, sale of surplus war stores held abroad and net receipts from settlements, etc.) entered in Table 38

⁽¹⁾ Receipts of war damage compensation, by all sectors, are treated as capital receipts (transfers). The corresponding expenditure on repair of war-damaged properties or replacement of chattels is, however, treated as current expenditure (see also page 283); it is therefore a deduction in arriving at business profits, or appears in consumers' expenditure. (Complete rebuilding of war-destroyed fixed assets is treated as capital formation). An alternative treatment would be to record the repair work done as gross fixed capital formation. Gross fixed capital formation would be increased and this would be matched by a corresponding increase in savings.

and described on page 206. In addition, consumers' capital contributions towards the capital expenditure of the British Electricity Authority and Area Boards (i.e. the cost of connecting consumers' premises) are entered as transfers by other sectors to public corporations.

Provision for stock appreciation

This item is discussed on pages 309-313. It relates only to stocks held by enterprises operating in the United Kingdom. The figures are taken from Table 52.

Total funds available

The sum of the preceding four items—the total funds available for gross investment—represent only the funds derived from savings and capital transfers (including capital taxes). The funds available to each sector by borrowing from other sectors are not included.

Gross domestic capital formation

The figures are taken from Table 51 (fixed capital formation) and Table 52 (change in stocks), and are described in detail elsewhere in this chapter.

Net borrowing from taxation reserves and from dividends and interest reserves

See page 279.

Net acquisition of financial assets plus net overseas investment

This item is a residue equal to the net balance of a very large flow of transactions in financial assets (i.e. mainly lending and borrowing). In the capital accounts for public corporations (Table 34) and for the Central Government (Table 38) some indication is given of the nature of these transactions; it can be seen, for example, that the large negative figures for public corporations are accounted for chiefly by the raising of new capital from the Central Government or by public issues. The residual item for companies includes the overseas investment of companies resident in the United Kingdom⁽¹⁾. This may represent the construction or purchase of fixed assets located overseas, such as factories and in some cases, increases in stocks; the purchase of holdings in the capital of non-resident concerns; and changes in trade credits and other financial assets and liabilities overseas.

It should also be pointed out that the acquisition of "going concerns" is throughout these estimates treated as the purchase and sale of a financial asset (the title to the concern) and not as fixed capital formation (see also page 283). Such transactions do not affect the figures, since the loss to the sector losing the concern must be regarded as balanced by the financial compensation received (e.g. shares or cash). Thus nationalisation and denationalisation, and the conversion of unincorporated businesses into companies, are not directly reflected in the table.

The figures in the final column represent the nation's total net *investment abroad* but they cannot be allocated by sector. The total figure is that given in Table 7 ("Transactions with the rest of the world"). It is the current

(1) Measured after deducting depreciation of fixed assets.

surplus on the balance of payments after crediting current grants from overseas (i.e. Defence Aid) *plus* capital grants received from overseas governments and debiting all transfers to abroad. From the point of view of Table 45, it can be described as overseas investment in the form of real assets⁽¹⁾, *plus* net increases in the gold and dollar reserves and in holdings of other foreign currencies, *less* net increases in overseas holdings of sterling, *plus* net lending to overseas residents.

Total gross investment

The totals on the right-hand side of the table thus represent the "gross" investment by each sector in fixed assets, in stocks and in financial assets; the term "gross" here indicates that the investment is measured before deduction of depreciation on domestic fixed assets. For the nation as a whole, it represents gross investment in domestic fixed assets, net investment in fixed assets overseas, investment in stocks at home and overseas⁽²⁾, and net changes in financial assets overseas.

3. FIXED CAPITAL FORMATION: GENERAL CONCEPTS

Gross domestic fixed capital formation comprises expenditure on the replacement of, and additions and major improvements to, fixed capital assets located in the United Kingdom. Fixed assets comprise land; buildings; civil engineering works (e.g. roads, reservoirs, drainage works); vehicles, ships and aircraft; and plant and machinery. All ships and aircraft belonging to United Kingdom residents are included. Fixed assets owned by non-residents but located in the United Kingdom are also included. A number of points of interpretation flow from this general definition.

Treatment of repairs and maintenance expenditure

Gross fixed capital formation is here defined to exclude expenditure on the ordinary repair and maintenance of fixed assets, such expenditure being regarded as chargeable directly to operating account. The distinction between expenditure on major improvements included in gross fixed capital formation, and expenditure on ordinary repairs not so included, is inevitably vague and ambiguous. In the industrial and commercial field the part of repair and maintenance expenditure included in gross fixed capital formation is in practice determined by the accounting conventions adopted by businesses in allocating their expenses between capital and non-capital expenditure. Thus gross fixed capital formation includes extensive repairs amounting to reconstruction of assets, but excludes day to day repairs and the replacement of minor parts.

This decision to exclude ordinary maintenance and repairs from gross capital formation is not unchallenged. In all official United Kingdom national income publications up to and including the national income estimates of April 1951 (Cmd. 8203) current maintenance on buildings and works was in fact included in gross fixed capital formation and therefore in gross national expenditure. It is so included in the official national income estimates for the Scandinavian countries. To rule out ordinary maintenance expenditure from

(1) Measured after deducting depreciation of fixed assets.

(2) Including stock appreciation on overseas stocks only.

gross capital formation has the advantage of conforming more closely to accounting definitions of capital expenditure; but it has the admitted disadvantage that the difficulties of distinguishing in practice between ordinary maintenance and improvement render the definition of capital expenditure somewhat imprecise.

The amount of repairs and maintenance expenditure to be treated as an operating cost is, in theory, that required to keep the assets in running order; this expenditure does not prevent the gradual wearing out of the assets through use nor their obsolescence. For any piece of plant, or for a building, a more or less determinate amount of maintenance is presumably required to maintain its efficiency in this sense. It can be assumed that inadequate expenditure on maintenance will ultimately damage the asset to such an extent that its life is curtailed (if, for example, a building is not regularly painted or its roof repaired). In theory, inadequate expenditure on maintenance should therefore be treated as a form of "disinvestment". Correspondingly, expenditure in excess of the normal standard of maintenance may well increase the life of the asset, and should therefore be treated as a form of positive investment. It is not entirely impossible to attempt to measure these forms of "deficient" or "excess" maintenance in certain cases by calculating in various ways a normal rate of maintenance expenditure. But the methods of estimation appear so incomplete and so untrustworthy⁽¹⁾ that in the present state of knowledge these forms of negative and positive capital formation are ignored. All repairs are therefore treated as operating costs.

If it were possible to estimate net capital formation, this latter treatment of repair and maintenance expenditure would, strictly, require an estimate of provision for depreciation in which any "excess" of actual maintenance expenditure over what is required to maintain assets in a constant state of repair was deducted from the provision for depreciation. Thus "excess maintenance", although not included in gross capital formation, would in effect decrease depreciation and so increase the estimate of net capital formation. Similarly, a deficiency of maintenance expenditure, so far as measurable, would be added to the provision for depreciation and would thus have the effect of reducing net capital formation. It is not possible to give such estimates of depreciation.

There are certain special cases of repair and maintenance expenditure whose treatment should be explained. (a) It is impracticable, from the statistics available for privately-owned houses, to separate the extensive conversion and major improvement of existing houses from ordinary repair and maintenance; hence all expenditure on existing privately-owned houses is treated as an operating cost and excluded from gross fixed capital formation. (b) Some concerns (e.g. local housing authorities) establish special reserve funds for the maintenance of capital equipment into which a regular annual payment is made from operating account, and from which the fluctuating amount actually spent in any year is drawn⁽²⁾. In such cases, the transfer to the fund is not treated in the Blue Book as an expense on operating account, but

⁽¹⁾ A particular difficulty in the case of houses is that although expenditure (i.e. mainly amounts paid to contractors) may be known to be inadequate at certain periods for normal maintenance, it is impossible to assess how far the deficiency is made up by the owners' or occupiers' personal labours.

⁽²⁾ Somewhat similar arrangements apply to the British Transport Commission.

the actual expenditure out of the fund is so treated⁽¹⁾. (c) Expenditure on the repair of war damage is treated as an operating cost of the owner of a building in the same way as ordinary building repairs, even though the repair may be financed from war damage compensation payments (see also page 279). War damage repair expenditure is thus a special case of "excess" maintenance and is not included in gross capital formation. The complete rebuilding of war-damaged structures is, however, included in gross fixed capital formation⁽²⁾.

Purchases and sales

The estimates of gross fixed capital formation should represent purchases of fixed capital assets (both new and second-hand) and expenditure on major improvements less the proceeds of sales of used capital assets. It follows from this treatment that the transfer of ownership of a fixed capital asset makes no net contribution to the total of domestic fixed capital formation except to the extent that the purchase price exceeds the vendor's receipts by the amount of dealers' margins, delivery and installation costs, stamp duties and legal fees. Apart from this the purchase by one capital account is balanced by the sale from another capital account. But exports of used capital assets, sales to consumers and sales for scrap necessitate deductions in arriving at the total of domestic fixed capital formation.

In practice, insufficient information is available to apply this treatment of purchases and sales of second-hand fixed capital assets consistently in every case, although it is done so far as possible. In particular, purchases of land and existing buildings are excluded from the estimates of gross fixed capital formation in individual industries (in Tables 48, 49 and 50) and no deduction is made in respect of sales of these items. The total contribution of land and existing buildings to gross domestic capital formation is equal to the dealers' margins, fees and stamp duties on such transfers.

Expenditure by one enterprise on the acquisition of the fixed assets, stocks and other assets (e.g. goodwill) of some other enterprise (or part of an enterprise) as a "going concern" is treated in the Blue Book as a purchase of a financial asset by the former enterprise balanced by the sale of a financial asset by the second enterprise. This treatment is adopted in order to avoid the vesting of company-owned or local authority-owned undertakings on nationalisation appearing as fixed capital formation by the public corporation sector.

Expenses of installation and transfer of assets

Expenditure incurred in connection with the acquisition of fixed capital assets is included in gross fixed capital formation, for example, installation costs of plant, transport costs in bringing plant to the factory, architects' and engineers' fees. These costs are treated as part of the price of the assets concerned in the tables analysing capital expenditure by industries and types of assets.

⁽¹⁾ Some of the expenditure of the British Transport Commission on renewals of works and structures, charged in their accounts to current expenditure, is included in the Blue Book as fixed capital formation.

⁽²⁾ The distinction is made by dividing payments of war damage compensation between "value" payments to the owners, which are taken approximately to represent complete rebuilding, and "cost of works" payments to contractors, which are taken to represent repair work.

Stamp duties, legal fees and agents' commissions, etc., are also included in gross fixed capital formation. These charges relate principally, though not completely, to transactions in land and existing buildings, and are shown separately at the foot of Tables 46 to 50.

Costs of financing the supply of capital

On the other hand, expenditure on financing the supply of capital, for example, the costs of share issues, stamp duties and other costs on the transfer of financial assets, is here regarded, not as capital expenditure (although it is so treated for tax purposes), but as operating expenditure. In the estimation of company profits, an estimate of such costs is deducted from company profits as recorded for tax purposes (see page 158).

Capital expenditure by public authorities

Expenditure on the replacement of, and additions and major improvements to, the land, buildings and equipment of public authorities (both for their trading and non-trading branches) is included in gross fixed capital formation. The principle followed in deciding what expenditure of these authorities is to be included is that each item of expenditure is treated so far as possible in the same way as a similar item of expenditure would be treated in estimating gross fixed capital formation in the private sector; this means departing in some cases from the definitions adopted for accounting purposes by the particular authority (for example, where the renewal of a fixed asset is charged to revenue in the authority's own accounts).

Nearly all expenditure on buildings and equipment for the Services is, however, excluded from gross fixed capital formation and treated as Central Government current expenditure. Exceptions to this rule are made in the case of (a) land for the Services, and (b) married quarters for members of the Forces, both of which are treated as fixed capital assets. The object of these exceptions is to treat as capital formation the principal types of assets which would be treated as capital assets if acquired for other purposes than defence. Expenditure on land, buildings and equipment (e.g. fire-fighting equipment) for civil defence is treated as capital formation. Moreover, public authority expenditure on buildings and plant for the *manufacture* of arms and equipment for the Forces and civil defence, and on buildings and plant for research and development work on arms and equipment, is treated as fixed capital expenditure as is such expenditure by private industry.

The definition of fixed capital formation of public authorities in the United Kingdom is wider than that used in some countries. The extent to which the purchase of buildings and equipment by public authorities should be included in capital expenditure for national income purposes is a matter for controversy. Some, for example the Department of Commerce statisticians in the United States, make no distinction between the current and capital expenditure of public authorities; hence their statistics of fixed capital formation refer only to capital formation outside government ("gross private domestic investment"); all government expenditure, including the capital expenditure of government trading enterprises, is classed as "government purchases of goods and services." The O.E.E.C. *Standardised System*, on the other hand, recommends that "general government" (i.e. the non-trading activities of public authorities) should be treated in much the same way as personal

consumers: all non-trading expenditure should be treated as current, except non-defence expenditure on land and buildings, which should be treated as capital. The United Nations *System of National Accounts*⁽¹⁾, to which the United Kingdom statistics broadly conform, recommends the inclusion in capital formation of all expenditure of a capital nature by general government on buildings, equipment, etc. (except for defence).

4. FIXED CAPITAL FORMATION: THE BLUE BOOK TABLES ⁽²⁾

The six tables relating specifically to gross domestic fixed capital formation (Blue Book, 1955, Tables 46-51) are closely interrelated, being different arrangements of the same basic data. Fixed capital formation can be analysed:

- a. by the sector in which the assets are used (Central Government, local authorities, companies, etc.);
- b. by the type of fixed asset (road goods vehicles, buildings, etc.);
- c. by the industry or service in which the assets are used (agriculture, coal-mining, etc.).

Each table may be regarded as a summary extraction from a three-way classification of total gross fixed capital formation.

The tables show analyses:

- by *type of asset* at current prices (Table 46);
- by *type of asset*, revalued at 1948 prices (Table 47);
- by *groups of using industries* at current prices (Table 48);
- by *groups of using industries*, revalued at 1948 prices (Table 49);
- by *using industry* in detail, with a summary division by *type of asset* at current prices (Table 50);
- by *sector* with a summary division by *type of asset* at current prices (Table 51).

Analysis by type of asset (Tables 46 and 47)

The different types of assets are defined as follows:

a. *Vehicles, ships and aircraft*:

(i) *Public road passenger vehicles*—Buses, trolley buses and trams.

(ii) *Road goods vehicles*—All vehicles intended mainly for use on public roads other than public road passenger vehicles and passenger cars. This heading includes, in addition to vehicles for the transport of goods, various road vehicles with specialised uses (e.g. ambulances, street cleansing vehicles); it excludes vehicles used within warehouses, railway goods depots, etc., mobile cranes with road licences, road-making vehicles and agricultural tractors, all of which are classified as plant and machinery.

(iii) *Passenger cars*—Estimated purchases (*less* sales) of passenger cars on business account. Taxis are included.

(1) And the report on *Concepts and Definitions of Capital Formation*, United Nations, New York, 1953.

(2) References are to Blue Book, 1955.

- (iv) *Railway rolling stock*—Locomotives, coaching vehicles, wagons and containers. Rolling stock for use on standard gauge private lines and sidings is included but that for use underground in mines is classified as plant and machinery.
- (v) *Ships*—Vessels of all descriptions purchased by businesses resident in the United Kingdom. The figures include estimated sums paid for ships transferred from abroad to United Kingdom ownership, and sales of second-hand ships to non-resident owners are deducted. Figures showing separately the value of ships built in United Kingdom shipyards, imported ships and the proceeds of sales of second-hand ships to foreign owners appear on page 67 of the Blue Book, 1955.
- (vi) *Aircraft*—Civil aircraft of United Kingdom ownership. The figures exclude expenditure borne by the government on the development of certain prototype civil aircraft.

b. *Plant and machinery*—This item covers all fixed assets other than vehicles, ships and aircraft, land, buildings and works. It therefore includes not only plant and machinery in the narrow sense but also equipment such as office furniture, hospital equipment and portable poultry houses. Electricity and telephone lines and cables are included under this heading but gas and water mains appear under "other buildings and works".

c. *Buildings, works and land* :

- (i) *New dwellings*—Expenditure on the construction of new houses and flats, both permanent and temporary, including architects' and quantity surveyors' fees, etc. Conversions and improvements to existing houses are excluded for privately-owned houses (see page 282). The figures include, so far as possible, items of equipment which are an integral part of the completed house (e.g. solid fuel heating appliances) and moveable equipment installed by landlords (e.g. electric cookers). But moveable equipment installed by tenants and owner-occupiers in new houses (e.g. electric or gas cookers) is excluded and regarded as consumers' expenditure.
- (ii) *Other new buildings and works*—Both new construction and extensions and improvements to existing buildings and works are included. Machinery and equipment forming an integral part of buildings and works is, in general, included, e.g. lifts, heating and ventilating plant. The distinction between "Building and works" and "Plant and machinery" is in some industries difficult to draw, for example in the oil refining and iron and steel industries; in such cases the normal accounting practice for distinguishing buildings and plant has generally been followed. Railway track, and gas and water mains appear under this heading, but electricity and telephone lines and cables appear under "plant and machinery". Architects' and quantity surveyors' fees, etc., are included in this item, but not fees and costs incurred in transferring the ownership of land and buildings.

- (iii) *Legal fees, stamp duties, etc.*—This covers stamp duties, legal fees, dealers' margins, agents' commission, etc., incurred in connection with the transfer of ownership of land and buildings, plus land development charges levied under the Town and Country Planning Acts, 1947. In Table 51, showing expenditure by individual sectors, the expenditure also includes purchases (*less* sales) of land and existing buildings, so far as these can be ascertained. But for the economy as a whole (as in Tables 46 and 47) such transactions necessarily cancel out; all that remains in this item is the legal fees, stamp duties, dealers' margins, and agents' commissions, etc.

Analysis by using industries (Tables 48, 49 and 50)(¹)

The classification by industries follows so far as practicable the *Standard Industrial Classification*. For manufacturing and building, data are derived from the census of production, which provides a classification by establishment and not by firm. This classification principle is followed for other industries where possible. Hence the classification is comparable with that in Table 14 showing gross domestic product by industry of origin, Table 15 showing wages and salaries in individual manufacturing industries, and with Tables 16-18 showing inter-industry transactions and production accounts. It is *not* comparable with Table 31 showing company profits by industry, which—besides relating only to companies—is based on a classification by firms or financial units.

There are some categories in Table 50 which are not strictly "industries," but which are distinguished for their inherent interest, or because the available data do not permit a split by industries. These include: (a) *Government-financed expenditure* in manufacturing industry which comprises expenditure in Royal Ordnance Factories, the erection of factories for lease to private firms (mainly in Development Areas), and capital equipment (e.g., imported machine tools) bought by the government and leased to private firms engaged on defence contracts (the last two of these items would not appear in the capital accounts of the using firms); (b) *Government research and development*, which relates to government expenditure on buildings and equipment for research and development, including buildings and equipment for atomic energy development and production. Both these categories of expenditure are classified to manufacturing industry.

The table also shows capital expenditure on a number of *social services* and *other public services* (education, child care, health services, police and prisons, etc.) which are not strictly "industries". These items cover the capital expenditure on the non-trading activities of public authorities, except government research and development (included under manufacturing), and government-financed expenditure on civil defence in certain industries—oil distribution, harbours and docks—which is included in the expenditure of the appropriate industries. It should be observed that expenditure on some of these social and public services includes not only public authority expenditure but also any private expenditure (e.g., on education, child care, health services).

(¹) The classification in Tables 48 and 49 is a summary of that in Table 50, to which the text below refers.

Road transport vehicles and ships owned by establishments in industries other than transport have been classified so far as possible to the industries owning them, and not to the transport industries. Expenditure on *new dwellings*, however, by whatever industry incurred, is included as a single item. *Legal fees, stamp duties, etc.*, cannot (in general) be classified by industry and for this reason are also brought in as a single unallocated item. The purchases of *land and existing buildings* are also excluded from the figures for the purchasing industries for lack of information, and since the total net purchases are necessarily nil, they make no contribution to the total. Capital expenditure on *civil defence* precautions is included under the industry or service concerned; for example, expenditure on emergency hospital accommodation and on emergency petroleum distribution facilities appears under *health services* and *distribution and other services* respectively. Expenditure on buildings and equipment for the Home departments' civil defence services appears under *other Central Government* and local authority civil defence under *other local authority services*.

Further particulars about the figures for individual industries are given on pages 300 to 305 together with the sources of data used in each case.

Analysis by sectors (Table 51)

The sectors have been defined elsewhere. It should be noted that payments for the fixed assets of an undertaking transferred as a "going concern" from one sector to another (e.g., from "companies" to "public corporations" on nationalisation) are not included. The increase in fixed capital formation by public corporations is in part due to the wider scope of the sector following the transfer of concerns from the private and local authority sectors.

Fixed capital formation of the personal sector represents:

- a. Expenditure on the construction of new dwellings owned by persons. It excludes work on extensions, conversion and improvements (see page 282) which are inevitably treated, like repairs and maintenance, as current expenditure.
- b. Purchases by persons (*less* sales by persons) of land and existing dwellings (e.g. from other persons, local authorities and companies). Such net purchases might be appreciable in amount, but only a very rough figure is available.
- c. Expenditure on land and buildings by non-profit-making bodies serving persons, such as universities.
- d. Capital expenditure of unincorporated businesses (farmers, professional persons, and other sole traders and partnerships). It is this element that accounts for the expenditure by the personal sector on vehicles, plant and machinery and for most of the expenditure on buildings other than new houses.

Expenditure by *public corporations* on housing represents chiefly the expenditure on housing by the New Town Development Corporations, the Scottish Special Housing Association, the Northern Ireland Housing Trust and the Coal Industry Housing Association.

Expenditure by *Central Government* trading bodies relates principally to the Post Office, civil aerodromes, temporary houses and government financed expenditure in manufacturing. A full list of government trading bodies is

given on page 223. Other Central Government expenditure covers buildings and equipment for research and development and for civil defence, married quarters for the Forces, hospitals, trunk roads, offices and other government buildings.

Expenditure by *local authority* trading bodies relates to housing (except houses for specific services, e.g. police), electricity and gas (before nationalisation), water, road passenger transport, harbours, docks, etc. Other expenditure of local authorities covers principally social services and provision of basic local services. Local authority capital expenditure is analysed in detail in Table 41.

5. FIXED CAPITAL FORMATION: STATISTICAL SOURCES

THE MAJOR SOURCES

There are two possible ways of estimating gross fixed capital formation: firstly from supply data, that is by measuring the total supply of capital goods to the home market from data about production, exports and imports; secondly from expenditure data, by aggregating the expenditures entered to capital account by businesses and public authorities.

Pre-war estimates for the United Kingdom were based mainly on supply data, and were subject to serious weaknesses owing to the infrequency of the censuses of production, the inadequacy of figures of production in the engineering industries during inter-censal years, and the paucity of statistics of building output. During the war, when official estimates of national income and expenditure were first published, neither method could be used; it was impossible to separate capital goods from war production in the available output statistics, and there were only fragmentary data about capital expenditure. Estimates of gross capital formation were derived as a residue—by subtracting estimates of the other forms of final expenditure from an estimate of total national income built up from data about incomes. No separation was possible between fixed capital formation and changes in stocks.

In the post-war years, until 1949, total capital formation was still estimated by residue, but an increasing volume of statistics relating to fixed capital formation was built up. The estimate of total fixed capital formation, although primarily an estimate based on judgment, was at least supported by enough direct evidence to set some limit on the possible year to year changes.

In 1949⁽¹⁾, it was possible for the first time to publish a direct estimate of the total gross fixed capital formation in the official statistics (the estimate of stock changes remaining a residue). This estimate was derived chiefly from supply data, especially the extensive series of statistics of engineering output built up by the Ministry of Supply, and the statistical returns of building and construction activity collected by the Ministry of Works from the building industry and required primarily for the administration of the building controls. These supply data could be supplemented by some estimates of capital expenditure, mainly from public authorities and the public corporations.

(1) In the national income white paper published in April 1949 (Cmd. 7649).

For reasons given above (page 275), it is believed that the approach from expenditure data is to be preferred to the approach from supply data. The restoration of the census of production with special questions on capital expenditure and the institution of other sources described below made possible an estimate based chiefly on expenditure data—in 1951⁽¹⁾ for plant, machinery and vehicles, and in 1952⁽²⁾ for building work—replacing almost entirely the former estimates based on supply data. At present, expenditure data of various kinds account for about 80 per cent. of the total gross fixed capital formation. The sources of information currently used are described in the following paragraphs, beginning with estimates from the expenditure side.

The census of production returns of capital expenditure

The principal improvement in statistical reporting which has made possible direct estimates of capital expenditure on fixed assets was the introduction by the Board of Trade of an annual census of production, with a special question about capital expenditure. The first census asking for this information was in 1948. Each subsequent annual census has repeated the questions except that for 1950 (when an alternative source was available—see page 291).

Virtually all manufacturing industry and the building and contracting industry are covered by the census. These industries are responsible for almost one quarter of total fixed capital formation, and the census provides the only comprehensive source for the estimates of this major segment of investment. The electricity, gas and water supply industries and the mining industry are also covered by the census. But for the publicly-owned part (i.e. the whole of these industries except privately-owned water undertakings and mines and quarries other than coal) alternative sources of information described below are used for estimating capital expenditure.

The census asks for separate particulars of capital expenditure on: plant and machinery; vehicles; new building or other new constructional work. Under the first two categories, purchases are to include both new and second-hand assets acquired, and proceeds from the sale of assets (other than normal trading sales) are asked for separately. Purchases and sales of land and existing buildings are excluded entirely. (For extracts from a recent census form see Annex 1, page 328).

Certain features of the census, relevant to various uses made of it in the national income statistics, are described in Appendix II (page 350). Special features applicable to the estimates of capital expenditure derived from the census are the following:

a. Information on expenditure on new establishments under construction (and not in production at the end of the year) is not collected in the censuses of production, but has been obtained by means of separate inquiries. Capital expenditure by such new establishments may significantly affect the level of total fixed capital formation and it is essential that allowance should be made for it.

h. In the case of small establishments (i.e. employing 10 or fewer persons) the census generally asks for information only on labour employed. There

⁽¹⁾ Cmd. 8203.

⁽²⁾ Cmd. 8486. The change-over in the estimates of building was associated with the redefinition of gross fixed capital formation to exclude current repairs and maintenance work.

is evidence that capital expenditure per employee does not vary substantially with size of establishment within the same industry group, and capital expenditure per employee, in each industry, is taken to be the same in the small as in the large establishments.

Quarterly inquiry into capital expenditure

In July 1955 a new sample inquiry into capital expenditure was started by the Board of Trade⁽¹⁾. A sample of approximately 650 companies is invited to give particulars (a) each quarter, of actual capital expenditure in the preceding *quarter* and (b) each autumn, of expected capital expenditure in the coming calendar year. The inquiry, which is on a voluntary basis, includes companies in most industries and is not confined to the industries covered by the census of production. The information sought about actual capital expenditure is broadly similar to that provided by the census (except that particulars about sales of assets are not asked for). It is hoped that the results of this inquiry, as well as providing for the first time information about capital expenditure in private industry for shorter periods than complete years, will make it possible to improve the estimates for the latest calendar year shown in future issues of the Blue Book. The inquiry should also improve the information about capital expenditure in industries not covered by the census of production.

Special sample inquiries (1950 and 1951) into capital expenditure by manufacturing industry

To obtain figures of fixed capital expenditure for the latest years in advance of the census of production returns, a special sample inquiry was undertaken in manufacturing industry in 1950 relating to capital expenditure in 1948 and 1949. A second inquiry was undertaken in 1951 covering capital expenditure in 1949 and 1950. The questions asked were similar to those in the census (except that respondents were asked to make returns specifically for calendar years and, in the second inquiry, the question on sales of used assets was omitted). This sample inquiry was not repeated as the alternative method of making advance tabulations of the figures of capital expenditure in the census was adopted instead. This sampling experiment however was found useful when it was decided to put the whole census on to a sample basis in certain years; it was in fact the first inquiry on a proper sampling basis carried out to obtain this kind of information from industry⁽²⁾.

Direct returns of capital expenditure from public authorities and public corporations

Direct returns of capital expenditure on fixed assets are obtained from *Central Government* departments (both trading and non-trading branches), from *public corporations* undertaking substantial amounts of capital expenditure, and (through the Ministry of Housing and Local Government and the corresponding departments in Scotland and Northern Ireland) from *local authorities*. Local authorities make half-yearly returns; those for Central Government and the major public corporations are made quarterly. Until the new Board of Trade inquiry just referred to, they were the only statistics of

⁽¹⁾ For details of the inquiry and for the first results see *Board of Trade Journal*, 4th February, 1956.

⁽²⁾ Details of the methods employed in the sample inquiries were given in the *Board of Trade Journal*, 21st April, 1951 and 5th January, 1952.

capital expenditure relating to periods of less than a year. The system of returns for the public sector has been built up since 1947 partly for statistical purposes and partly for the specific requirements of investment policy and control, being associated with statements about capital expenditure requirements in future periods. The returns from public authorities and the public corporations cover about half of total gross fixed capital formation.

The information provided is in much the same form as that required from private industry in the census of production, but with some additional detail (for example, the local authorities' returns distinguish between different services, e.g. education, roads, etc.); on the other hand, receipts from sales of used plant and vehicles are not recorded.

The statistical advantages of these returns over the data published by the authorities concerned in their own accounts (referred to below) are:

a. The returns are available somewhat earlier—some months before the appearance of the *Appropriation Accounts* and *Trading Accounts* for Central Government, shortly before the appearance of the annual reports of the major public corporations, and more than a year before the statistics for local authorities appear in the *Local Government Financial Statistics*(¹). These direct returns, which must in some cases be regarded as preliminary estimates, are therefore the principal source of the estimates for the latest year shown in each Blue Book (the last two years for local authorities); the statistics of capital expenditure for earlier years are revised for reconciliation with the published accounts so far as possible.

b. The returns show a division by type of asset which is not available in all the published accounts.

c. The definitions of capital expenditure are more closely adapted to statistical requirements.

Published accounts of public authorities and public corporations

Statistics of capital expenditure on fixed assets can be derived from the published sources listed below; these sources are used mainly as a check on the direct returns of capital expenditure made by most of the authorities concerned, the latter being regarded as the main source of information.

a. Central Government: *Appropriation Accounts*, and *Trading Accounts and Balance Sheets* of government trading branches, etc.

b. Local authorities: *Local Government Financial Statistics* (England and Wales) and similar returns for Scotland and Northern Ireland.

c. Public corporations: annual statements of account submitted to Parliament.

Although they have the advantages of accounting accuracy, the statistics in these reports present certain difficulties:

a. The *Appropriation Accounts* of the Central Government do not necessarily enable current and capital expenditure to be distinguished; the distinction can often be made by a suitable rearrangement of the items, but not in all cases.

(¹) The half-yearly returns by local authorities relate to *payments* while the *Local Government Financial Statistics* relate to *expenditure*. The payments figures are published in the annual reports of the Ministry of Housing and Local Government; (they were previously given in the annual reports of the Ministry of Health.)

b. The trading accounts of Central Government trading bodies, the *Local Government Financial Statistics* and the accounts of the public corporations generally define capital expenditure in a manner which approximates to the concepts used for national income purposes. One exception is that "capital expenditure" excludes expenditure dealt with on a "renewals" basis and charged to revenue account (for example, renewals of way, works and structures on the railways are dealt with in this way by the British Transport Commission; the larger local authorities may also charge some renewals directly to revenue). On the other hand, "capital expenditure" of local authorities may include the whole cost of equipping new buildings, even though part of this equipment may consist of small items of "consumable stores" not here regarded as capital assets (e.g. crockery).

c. The accounts (in particular those for local authorities) do not always distinguish between types of assets, e.g. between machinery and buildings. Nor do they separately specify purchases of land and existing buildings, which must be excluded for some purposes for consistency with the accounts of other industries. Moreover, the accounts may include purchases of fixed assets of another undertaking bought as a going concern, or purchases of intangible assets such as leaseholds, and patent and mining rights, all of which must be excluded here. These differences of treatment are the most important limitation on the use of the published accounts.

Published company accounts

The annual statements of accounts required of public companies under the Companies Act, 1948, which are lodged with the Registrar of Companies, might appear to be a potential source of information about capital expenditure, but are not in fact used. Capital expenditure on fixed assets is not stated directly in the company accounts but could be derived from the accounts by taking the increase in the written-down value of fixed assets *plus* the depreciation charged in the year; this should give total purchases, new and second-hand, *less* the book value of assets sold or scrapped. The results would however have several of the defects, from the point of view of the national income estimates, listed in the previous paragraphs: the absence of any distinction between types of assets, and differences in the definition of capital expenditure. In addition there are some further substantial difficulties: (a) the accounts of most private companies are not lodged for public inspection; (b) adjustments are required if there has been a revaluation of assets during the year; (c) no distinction is made, as a rule, between domestic and overseas fixed assets; (d) any industrial analysis would have to be in terms of financial units, not establishments; (e) allowance must be made for newly consolidated subsidiaries.

Data on capital expenditure derived from depreciation allowances

Estimates of capital expenditure on plant and industrial buildings may be derived from Inland Revenue tax assessments. The basis of these estimates is the system of initial depreciation allowances granted in respect of capital expenditure during the year (see Annex 2 on page 330). From knowledge of the total initial allowances granted, and the rate of initial allowance, estimates of total capital expenditure (including second-hand equipment but before deducting sales of used equipment) may be derived. The method is applicable

only for years in which initial allowances were granted (and so is not applicable to capital expenditure in 1952). It cannot be applied to commercial buildings, in respect of which no statutory depreciation allowances are made.

The data suffer from several limitations:

a. Initial allowances are given on second-hand as well as on new purchases, and only a very rough estimate can be made of the necessary deduction from the purchases to allow for sales of used assets. On the other hand, where a new asset replaces one which has been sold at a price in excess of its written-down value, the trader may elect to have the initial allowance on the new asset reduced or cancelled as an alternative to paying a balancing charge on the sale of the old asset.

b. Initial allowances are not separately recorded but are estimated from total allowances on a sample basis.

c. The initial allowances for plant and machinery are not distinguished from those for vehicles.

d. For years (e.g. 1949) in which the rate of initial allowance was changed, an assumption must be made as to the proportion of the total initial allowances given at each rate. This introduces a further possibility of error.

e. The statistics depend on the completion of tax assessments; although highly provisional figures can be given for the last year but one, estimates based on effectively completed figures are available only for the last year but two.

The Inland Revenue data relating to initial allowances are therefore used to estimate capital expenditure on plant, machinery and vehicles only for certain industries and services for which no other source of information is available (mainly distribution and miscellaneous service industries). It will be possible to use data from the "investment allowances" in the same way, and with slightly more accuracy.

The sources of data directly referring to capital expenditure have now been described (apart from certain sources applicable only to individual industries which will be described below in the discussion of the data for each industry). The sources which can be described as *supply data* will now be discussed.

Estimates of building output

The first principal source is the monthly statistics of the number of houses started and completed which are collected by the Ministry of Housing and Local Government (and the corresponding departments in Scotland and Northern Ireland); these figures are used for estimating investment in privately-owned houses, for which no expenditure data are available (see page 299).

Secondly, until the end of 1954 monthly returns were made by building contractors to the Ministry of Works showing the value of work done at each site on which a *licensed or authorised* job over £2,000 was proceeding. These site returns were classified by the Ministry of Works in detail according to the type of work being done (new work or repairs; and whether on factories, shops, houses, etc.). The site returns were supplemented by returns

covering total work done by each builder compiled quarterly (on a sample basis) and annually, giving a summary analysis by type of work.

The monthly site returns were abolished when building licensing came to an end at the end of 1954. The quarterly and annual returns by a sample of building contractors are, however, maintained in a somewhat revised form. These returns now require a statement of the total value of work done by the contractor under the following heads:

Houses and flats, divided between:

- a. New work for public authorities.
- b. New work for private owners.
- c. Repair and maintenance work.

Other work for private owners, divided between:

- a. New industrial work (including major alterations, etc.) on factories, warehouses, etc.
- b. New non-industrial work (including major alterations, etc.) on shops, farms, etc.
- c. Repair and maintenance work.

Other work for public authorities, divided between:

- a. New work (including major alterations, etc.).
- b. Repair and maintenance work.

It must be admitted that there can be no certainty that the division of work, based on these returns, between maintenance and repairs on the one hand, and new work on the other, is consistent with that implied by estimates derived from accounting or other data of capital expenditure supplied by the using industries.

The statistics referred to in the two previous paragraphs are used for estimating capital expenditure on building in private industries and services for which no direct returns of expenditure are available—chiefly in non-manufacturing industries.

Estimates of capital formation in plant and vehicles from supply data

Apart from the important exceptions of (a) estimates of investment in *agricultural machinery*, (b) special estimates of the value of work done in *shipbuilding* (see page 298) and (c) estimates of capital account purchases of *motor vehicles* (see page 297), and some minor cases, supply data are no longer used for compiling annual statistics of fixed capital formation in plant and vehicles for the Blue Book. They have, however, been used in the past; and they are still used⁽¹⁾ to give preliminary estimates of fixed capital formation in the most recent year, particularly for the annual white papers on national income and expenditure which are produced before more than a small proportion of the expenditure data become available. Moreover, since many of the supply data are available on a quarterly basis, they can be used to give rough indications of the trend of investment since the latest complete year. Some comments on the general characteristics of such supply data should therefore be made.

⁽¹⁾ For several purposes, they should be superseded in future by the new quarterly inquiry into capital expenditure referred to on page 291.

The estimates are derived from the statistics of output of the industries producing capital goods (mainly the engineering industries in the widest sense) with allowances for imports and exports. The following points should be noted:

a. For a considerable part, perhaps one-third, of the output of the engineering industries, there are no current production data. The detailed censuses of production for 1948, 1951 and 1954 cover the whole field and give the requisite detail by type of product, but their main use is to show longer-term trends and to provide weights for short period indicators.

b. The major difficulty, arising even when complete and up-to-date statistics are available, is to define capital goods in a manner consistent with statistics of profits and savings. It is necessary to distinguish, in the production statistics for the "capital goods industries", between "intermediate" goods (i.e., goods used as an input by other establishments in the same group of industries or by establishments in other industries) and "final" goods. Thus an electric motor may be sold for installation by the purchaser as a fixed asset, or it may be sold as an "input" to another firm in the engineering industries (e.g., for incorporation as a component part of a more elaborate piece of equipment). If the engineering industries in a broad sense (Orders VI-IX and part of Order V of the *Standard Industrial Classification*, all of which have a claim to be regarded as "capital goods" industries) are considered as a single group it is found, by comparison with the estimates made from other sources of the various forms of final expenditure, that over one-quarter of this group's output consists of "intermediate products" consumed by other industries⁽¹⁾. These intermediate products consist of replacement parts of machines, repair work, minor items which would not be treated as fixed assets, and the like. The proportion of intermediate products may vary significantly from year to year.

c. Similarly a single product, even if a "final" product, may be used for a variety of purposes: a motor car or a filing cabinet would be "consumer expenditure" if sold to a private person, "capital formation" if sold to a business or to a local authority, or "Central Government current expenditure" if sold to a Service department. The nature of the commodity does not invariably determine its use.

d. Supply data are unlikely to reveal changes in stocks held by producers or distributors. Stocks of most capital goods in the factory or the distributive chain are probably not large, and may not much affect year to year changes in apparent fixed capital formation. But stock variations could be of substantial importance if estimates are being made for shorter periods than a year.

e. There are problems of valuation: additions must be made to factory values of output for transport and installation costs and distributive margins.

Hence the making of satisfactory estimates of gross fixed capital formation from the supply side requires not only improved supply data but also—what is rarely available—a division of supplies to the home market of particular goods between the various uses to which they might be put.

(1) See Table 16 of Blue Book, 1955.

Estimates from the supply side naturally exclude purchases of second-hand fixed assets and no deduction is made for sales of used assets. An addition should however be made in respect of purchases of second-hand assets which result in a net increase in the nation's stock of fixed capital assets (e.g. purchases of used equipment disposed of by the Services) and a deduction made for sales which result in a net decrease in the stock of fixed capital assets (e.g. sales of passenger cars from business or public authorities to persons, sales for scrap, sales abroad).

ANALYSES OF FIXED CAPITAL FORMATION

Sources of the analysis by types of asset (Table 46)

The types of assets have already been defined (page 285). The sources of the estimates are as follows:

Public road passenger vehicles—There are two independent sources:

- (i) Statistics of numbers of vehicles newly registered (excluding new registrations of used vehicles), multiplied by estimated average prices; account is taken of the varying proportions of vehicles registered in the different seating capacity categories and of the varying proportion of electric trolley vehicles. The Board of Trade collect the information on the movements in the selling prices of vehicles.
- (ii) The Ministry of Transport and Civil Aviation collect annual statistical returns from operators in the road passenger transport industry which give information (in the case of operators owning five—recently increased to twenty—or more vehicles) on capital expenditure on vehicles. An estimate covering small operators has to be added.

Estimates for all but the latest year are based mainly on the second source; for the latest year (for which figures of expenditure are not yet available) the registration data are used.

Road goods vehicles—Estimates are obtained by multiplying numbers of vehicles newly registered (excluding new registrations of used vehicles) by estimates of average selling prices; account is taken of the varying proportions of vehicles registered in the different unladen weight categories. The Board of Trade collect information on list prices of vehicles.

Passenger cars—Total expenditure on new passenger cars for all users is estimated in the same way as that on road goods vehicles, account being taken of the varying proportions of vehicles registered in the different cylinder capacity categories. The division of this total expenditure on new passenger cars between gross fixed capital formation and consumers' expenditure is based on very arbitrary assumptions relating to the distribution of new cars between business users and private persons and to the net transfers of used cars between business users and persons. For the method of estimation see page 124.

Railway rolling stock—The source is direct returns of capital expenditure by the railways, with a small addition for rolling stock intended for other users (e.g. industrial firms) based on production statistics.

Ships—An estimate of the value of work done on the construction of merchant ships for United Kingdom owners is prepared by the Admiralty⁽¹⁾. The whole increase in work in progress on such ships is thus included in fixed capital formation; consequently nothing is included in the estimates of stock changes in respect of work in progress in the shipbuilding industry on ships for United Kingdom owners. The estimate of work done follows closely the method employed in estimating the output of the shipbuilding industry for the Index of Industrial Production⁽²⁾. Detailed estimates are worked out in respect of each ship under construction and these can be expressed as an equivalent tonnage of completed ships. This tonnage is then multiplied by an average value per ton using prices current at the time of construction and allowing for the different values per ton of different types of ships. The aggregate value of work done on ships for United Kingdom owners is thus obtained. The result is checked by comparing the estimated value of ships actually completed during the year (including work done on such ships in earlier years) with independent data from the Shipbuilding Conference. To the estimate of work done on new ships in the United Kingdom for United Kingdom owners are added estimated sums paid for imported vessels and for foreign-owned vessels transferred to United Kingdom ownership; the estimated proceeds of sales of second-hand ships to overseas owners are then deducted (see table on page 67 of the Blue Book, 1955). Information on overseas transactions is derived from the operation of foreign exchange control, from controls on sales of second-hand ships to foreign owners, and from changes shown in the United Kingdom register of ships.

Aircraft—The figures given are based on expenditure returns from the Airways Corporations. An estimate, prepared by the Ministry of Transport and Civil Aviation, is added for private operators' purchases of new aircraft.

Plant and machinery—The estimates are obtained by aggregating the figures for plant and machinery in individual industries described on page 300 et seq.

New dwellings—The estimates are built up sector by sector as follows:

- (i) *Local authorities*—From expenditure data, viz. *Local Government Financial Statistics* and corresponding returns for Scotland and Northern Ireland; for the most recent years, the direct returns of capital payments are used.
- (ii) *Public corporations*—From published accounts (in particular those for the Scottish Special Housing Association, the Northern Ireland Housing Trust, the New Town Development Corporations, and the Coal Industry Housing Association) and direct returns from the corporations of capital expenditure on new houses (see page 291).
- (iii) *Central Government*—From accounting data relating to permanent married quarters for the Forces. For the relatively small numbers of other Central Government permanent houses (e.g. those erected for prison officers) estimates of expenditure have been based on production data. The statistics showing the numbers of such houses

⁽¹⁾ The value of work done on capital account should include work on major repairs as well as work done on new ships. It has not yet been possible to include estimates of such work on major repairs, which probably amounts only to about £1 million a year currently although greater in earlier years. It is hoped that such estimates (and also an allowance for the proceeds of ships sold for scrap) will be included in future editions of the Blue Book.

⁽²⁾ Studies in Official Statistics No. 2. *The Index of Industrial Production*. H.M.S.O. 1952, page 52.

completed are adjusted to take account of the change between the beginning and end of the year in the number of houses under construction; the number of "equivalent completions", so determined, is multiplied by an average price based on costs of local authorities' housing schemes. The cost of manufacture and erection of prefabricated temporary houses owned by the government, and provided for the use of local authorities, is shown separately in Table 51 (under "Central Government, trading"). The source is government accounts.

- (iv) *Privately-owned dwellings*—The production approach described above is again employed. The numbers of "equivalent completions" are multiplied by estimates of average price per house which have hitherto been derived from builders' site returns (see page 294) and (for 1948) from the census of production of the building industry. The estimates so obtained, which represent an attempt to measure the total value of work done in the year, cannot be regarded as reliable. In Table 51, all private housebuilding has arbitrarily been allocated under the heading "Persons", in the absence of data on new dwellings built for company ownership.

Other new buildings and work—The sum of the estimates for new buildings and works for individual industries as described on page 300 et seq., excluding new dwellings.

Legal fees, stamp duties, etc. (for content, see page 287)—Figures for stamp duties and land development charges are from government returns of receipts (financial year figures appear in the *Annual Reports of the Inland Revenue* and the *Finance Accounts of the United Kingdom*). A rough estimate of expenditure on legal fees and agents' commissions, etc., has been made by assuming that (from 1st August, 1947, when the rates of stamp duty were altered) such expenditure equalled $1\frac{1}{2}$ times the expenditure on stamp duties. The estimate so derived is liable to a considerable margin of error.

Analysis by type of asset at constant prices (Table 47)

The estimates in Table 46 are here revalued in terms of average 1948 market prices. The information available is, however, inadequate to yield reliable estimates in some cases and the figures in this table should be regarded only as indicating the general trend in the level of real fixed capital formation.

Road vehicles—The estimates are derived from the numbers of vehicles newly registered multiplied by average 1948 prices. The price indices for goods vehicles and passenger cars implied by Tables 46 and 47 are affected markedly by changes in the rates of purchase tax.

Railway rolling stock, ships and aircraft—The constant price series for new ships built in United Kingdom shipyards is obtained in the same manner as the series at current prices except that 1948 prices are employed in the calculation. The constant price series for sales of second-hand ships to foreign owners is based on the tonnage and average age of the ships disposed of. For railway rolling stock and aircraft, the current price estimates in Table 46 are deflated by rough price indices in the absence of indices specifically relating to these products.

Plant and machinery—The current price estimates are deflated by a price index. This index is based on incomplete material and is subject to considerable error. It takes into account (a) price data relating to certain items of plant and machinery collected by the Board of Trade and (b) changes in average value (per ton) for exported machinery derived from the *Trade and Navigation Accounts*.

New dwellings—The current price estimates are deflated by a price index. This index is based on: (i) data given in the Girdwood Reports⁽¹⁾ on costs of housebuilding; and (ii) a price index obtained by taking a weighted combination of the Board of Trade's index of prices of housebuilding materials with an index of building operatives' earnings per man-hour. (This price index may have a substantial error.)

Other new buildings and works—A price index is used here also to deflate the current price estimates. This index is a weighted combination of the Board of Trade's index of materials used in the building and civil engineering industries with an index of building operatives' earnings per man-hour. The resultant price index is subject to considerable error.

Legal fees, stamp duties, etc.—To obtain the constant price figures, the current figures have been adjusted in two respects: (a) an allowance has been made for changes in the rate of stamp duty on property transfers (principally in the April 1947 Budget) and (b) the major portion of development charges has been eliminated, since in 1948 (the base year for the purpose of the constant price calculations) this form of levy operated only for a portion of the year.

Sources of the analysis by industry (Table 50, summarised in Tables 48 and 49)

Gross fixed capital formation, excluding legal fees, stamp duties, etc., is analysed by industry in these tables, and within each industry under three groups of assets. Net purchases of land and existing buildings are excluded from the estimates. (Some general comments on these tables were made on page 287).

The sources of data for the individual industries are as follows:

Agriculture—This relates to machinery, vehicles, new buildings and works, farm ditching, drainage (but excluding arterial drainage) and water supply. The figures for machinery are derived principally from data of machinery produced for the home market and import statistics, and figures of lorries and vans from periodic censuses of equipment in use on farms. Estimates for new buildings and works consist of public authorities' investment (only a small proportion of the whole), which can be fairly accurately assessed from departmental programmes, and private investment projected from estimates hitherto derived from the figures for building licences. Figures for farm ditching, drainage and water supply are estimated from government grants made for such improvements. Changes in the value of livestock on farms and growing crops are excluded, but appear under "stocks and work in progress" (Table 53).

Forestry—This item covers Forestry Commission expenditure only. Expenditure on planting and maintaining the Commission's forests is treated as an increase in stocks and work in progress, so that only expenditure on

⁽¹⁾ e.g. *Cost of Housebuilding*: Third (and last) report of the Committee appointed by the Minister of Housing and Local Government (H.M.S.O., 1952).

roads, buildings and machinery, etc., is included here. The figures are derived from direct returns from the Commission.

Fishing—The only item of expenditure over £500,000 is on vessels; expenditure on renewal of nets is excluded, being regarded as a revenue charge. The estimates for vessels are made by the Ministry of Agriculture, Fisheries and Food and the Department of Agriculture for Scotland.

Coalmining—This item covers capital expenditure on mine workings and on ancillary activities other than coke ovens (e.g., on coal preparation plant). The sale by the National Coal Board of their railway wagon fleet to the British Transport Commission in 1948 has been treated as the sale of a "going concern" and not as negative fixed capital formation by the coal industry. Plant for civil engineering contractors engaged in the raising of opencast coal is excluded; it appears with other expenditure by the building and contracting industry. The figures given are derived from direct returns made by the National Coal Board.

Other mining and quarrying—The source is the census of production.

Manufacturing industry—This covers expenditure at establishments classified to Orders III to XVI inclusive, of the *Standard Industrial Classification*. Railway-owned establishments are however included under railways. Expenditure on Service departments' dockyards and repair depots, etc., is excluded entirely from capital formation. "Government-financed expenditure" and "Government research and development" are included.

Government-financed expenditure consists of:

- (i) Expenditure at Royal Ordnance Factories, and at factories owned by the Ministry of Supply but managed by private firms on an agency basis; the expenditure has been reckoned after deducting the proceeds of the disposal of surplus machine tools, etc. (which accounts for the negative figures under plant and machinery in 1948 and 1949).
- (ii) Capital assistance to contractors: this relates mainly to government-financed expenditure at privately owned establishments undertaking defence contracts. It includes purchases by the Ministry of Supply and other Government departments of imported machine tools intended for loan to contractors. (See also page 251.)
- (iii) Expenditure by the government on the erection of factory buildings intended for lease to private firms (mostly in the Development Areas).

Figures of government-financed expenditure are from returns received directly from the Board of Trade and Ministry of Supply.

Other expenditure in manufacturing industry—The estimates are derived from the census of production, as described on page 290 (except for the figures for 1948 to 1950 which come from the special sample inquiry described on page 291). For the latest year shown, the estimates are based on very incomplete census returns and are supplemented, as regards expenditure on building, by the building site returns and, as regards plant and machinery, by production data. The information available for the most recent year is not reliable enough in detail to give the full analysis by individual manufacturing industries.

Government research and development—The principal items here are expenditure by the Ministry of Supply on buildings and equipment for research and development establishments serving civil and military needs and expenditure by the United Kingdom Atomic Energy Authority on buildings and equipment for atomic energy production and research establishments. Equipment financed by the Ministry of Supply and installed in private firms' establishments is also included. The whole item can be regarded as part of manufacturing industry (since research establishments attached to private firms' manufacturing establishments are classified to manufacturing industry). The figures are derived from direct returns of capital expenditure from the Ministry of Supply and the Atomic Energy Authority. Capital expenditure by the Department of Scientific and Industrial Research is also included here.

Building and contracting industry—This item excludes expenditure by the building and civil engineering establishments of local authorities, government departments and public utilities (e.g., railways, electricity). The estimates are of variable reliability. The main source, for 1951 and later years, is the census of production⁽¹⁾. For years before 1951, and to supplement the information about the most recent years (for which census of production estimates are incomplete), production data for building and civil engineering plant and data from the Inland Revenue initial allowances have been used.

Electricity—The expenditure shown includes purchases of meters and appliances for hire. Transmission lines are included under the heading plant and machinery. The figures are derived from the direct returns by the undertakings concerned.

Gas—The expenditure shown includes purchases of meters and appliances for hire. Gas mains appear under buildings and works. Direct returns from the undertakings are the source of the figures.

Water—Water mains are included under buildings and works. The sources of the figures for local authorities' undertakings are *Local Government Financial Statistics* and, for the most recent years, the direct returns by local authorities. For company undertakings the source is the census of production.

Railways—The item covers British Railways, London Transport railways and railways in Northern Ireland. An allowance is included for renewal of works and structures (which for accounting purposes is charged to revenue), but expenditure financed from abnormal maintenance account is not included. Expenditure shown under the heading "vehicles" covers ships (£1 million in 1954) and road goods vehicles for cartage etc. (£2 million in 1954) as well as railway rolling stock (£46 million in 1954); the acquisition of the National Coal Board's wagon fleet in 1948 is excluded. Expenditure on plant and buildings for railway-owned manufacturing and repair establishments is included under this item and not under manufacturing industry. The figures shown are derived from direct returns from the railway authorities.

⁽¹⁾ Before 1951, the census of production for the building industry omitted questions on capital expenditure.

Road passenger transport—This item excludes taxi-cab and car-hire services etc. The source of the figures for vehicles has been described on page 297. The expenditure returns made by operators to the Ministry of Transport and Civil Aviation (referred to there) are used in addition to derive estimates of capital expenditure on plant, machinery and buildings.

Shipping—This item covers all shipping other than that owned and operated by other industries (and included under the headings Fishing, Railways etc.) ; oil companies' fleets are included here. The figure for ships is that described on page 298, *less* expenditure on ships included under other headings. The figures for buildings are from the building site returns (see page 294).

Harbours, docks and canals—The estimates are derived from direct returns of expenditure made by the principal undertakings to the Ministry of Transport and Civil Aviation.

Air transport—This item covers expenditure by the airways corporations and private operators on aircraft and ground equipment, and expenditure by the Ministry of Transport and Civil Aviation on aerodromes and ground equipment. The source of the figures for aircraft is described on page 298. The figures for plant and for buildings and works are obtained from direct returns from the corporations and the Ministry.

Postal, telegraph and radio communications—This item relates to the fixed assets of the Post Office, including those assets of Cable and Wireless Ltd. transferred to the Post Office (see page 170). Telephone cables and ducts are included under the heading plant and machinery. The figures are provided by the Post Office. For the most recent years they include considerable amounts for telephone cables and equipment installed for defence purposes.

Broadcasting—Figures of capital expenditure are provided by the British Broadcasting Corporation and the Independent Television Authority.

Distribution and other services—This item comprises fixed capital formation in the following industries and services : taxi-cab and car-hire services ; road goods transport ; warehousing ; the distributive trades ; insurance, banking and finance ; professional services ; entertainment and sport ; laundries and dry cleaning, etc. ; catering and hotels ; and miscellaneous service industries. It includes expenditure on, for example, churches. The estimate for *vehicles* used by these industries is obtained by residue ; it is the sum of all vehicles as shown in Table 46 *less* the vehicles shown under all other industries in Table 50. The estimate for *plant* for the years 1948 to 1953 in the Blue Book, 1955 is obtained by deducting the estimate for vehicles just described from an estimate, derived from initial allowances, of the total value of plant and vehicles acquired by the industries in the group. The estimate for plant in the latest year shown (1954) is obtained by projecting the estimates for earlier years on the basis of changes in supplies to the home market of certain specific types of machinery—an unsatisfactory method, since few items of plant are peculiar to the industries. The following is an approximate analysis for the years 1948 to 1953 of capital expenditure on plant and vehicles combined, based mainly on initial allowances⁽¹⁾.

(1) For the nationalised section of road goods transport, statistics are available from the accounts of the British Transport Commission and from direct returns made by the Commission.

Plant, machinery and vehicles

£ million

	1948	1949	1950	1951	1952	1953
Road goods transport . . .	13	15	12	13	12	17
Other transport and communication ⁽¹⁾ and warehousing . . .	8	7	10	5	6	4
Wholesale distribution . . .	23	25	27	36	32	37
Retail distribution . . .	27	29	30	33	33	38
Insurance, banking and finance . . .	2	2	3	3	3	4
Professional services . . .	7	9	9	10	10	12
Entertainment and sport . . .	3	6	5	3	4	4
Laundries and dry cleaning . . .	4	4	15	17	14	19
Other service industries . . .	10	9				
Total . . .	97	106	111	120	114	135

(¹) i.e. S.I.C. minimum list heading 238; also includes taxi-cab and car-hire services.

The estimates for *buildings and works* have hitherto been derived from builders' site returns. All the estimates for this group of industries are subject to considerable margins of error.

New dwellings—This is the same figure as that described on page 298.

Education—Expenditure on new buildings for schools and universities; some equipment is included. The figures for local education authorities' schools are from the *Local Government Financial Statistics* and the direct returns. For other schools and for universities, the figures are based mainly on government grants paid and builders' site returns.

Child care—Expenditure on approved schools, remand homes and children's homes. The source is the same as that for education.

Health services—Expenditure by Regional Hospital Boards and the Boards of Governors of Teaching Hospitals, Central Government expenditure on war-time hospitals and public health laboratories, expenditure by local health authorities (e.g. on local clinics, welfare centres and on the ambulance service) and expenditure on private hospitals and clinics, etc. The figures for expenditure of Regional Hospital Boards and other public authorities are based on direct returns from the authorities concerned; builders' site returns have hitherto been the basis of the figures for private building expenditure.

Police and prisons—This item includes also expenditure on court buildings.

Fire service—The figures are taken from the local authorities' direct returns.

Roads and public lighting—This heading covers new road works and "major" road improvements (not "minor" improvements nor maintenance expenditure)⁽¹⁾ and capital expenditure on street lighting and on highway authorities' plant and machinery. The figures for new road works and major improvements, covering both trunk roads (which are the responsibility of the Ministry of Transport and Civil Aviation) and roads maintained by local

(¹) Capital expenditure on roads, thus defined, is a very small proportion of total expenditure on roads. The division between capital and current expenditure is based on an administrative distinction.

authorities, are derived from returns made by highway authorities to the Ministry of Transport and Civil Aviation. Figures of expenditure by local authorities on road-making plant and machinery and on street-lighting are obtained from the *Local Government Financial Statistics* and the local authorities' direct returns. Plant and machinery owned by civil engineering contractors engaged on road works is included in the building and contracting industry's capital formation.

Sewerage—Sewers are included under the heading "buildings and works". The source of the figures of local authority expenditure is *Local Government Financial Statistics* and, for the most recent years, the local authorities' direct returns. Expenditure by New Town Development Corporations is added.

Arterial drainage and coast protection—This item covers new works of drainage and river boards (e.g. new watercourses and land reclamation), and local authorities' sea defence works. Substantial amounts are included in 1953 and 1954 for sea defence works arising out of the East Coast floods of 1953. The source is *Local Government Financial Statistics* and, for the most recent years, the local authorities' direct returns.

Other Central Government services—This item covers Central Government buildings and equipment not classified elsewhere, principally: government offices (including those built by commercial institutions for subsequent lease to government departments); Parliament buildings; Royal Palaces; Royal Parks and Pleasure Gardens; national libraries, museums and art galleries; machinery for the Stationery Office; and buildings and equipment for the civil defence services organised by the Home Office and Scottish Home Department. The estimates are made by the Ministry of Works and other departments concerned.

Other local authority services—This item covers local authorities' services not classified elsewhere, namely: local government offices, libraries, museums, parks and playing fields, baths and private street works; and expenditure on refuse disposal services, "other public health services", town and country planning and civil defence. The estimates are based on *Local Government Financial Statistics* and the local authorities' direct returns.

Legal fees, stamp duties, etc.—This item is described on page 287.

Sources of the analysis by sector (Table 51)

The figures in this table have been derived by sub-dividing between the different sectors each of the items of Table 50 (the analysis by industry). An estimate has been added representing each sector's purchases (*less* sales) of land and existing buildings and expenditure on legal fees, stamp duties, etc. Several of the items in Table 50 can be identified with a single sector; and in many other cases the sources of information on which Table 50 is built up relate only to a single sector (e.g. the various returns from the Central Government, local authorities and public corporations). The only substantial difficulty arises in separating the company sector from unincorporated enterprises (part of the personal sector) in those industries in which the basic source yields only a total for all establishments; this difficulty arises for example where the census of production is the source. In such cases, the division of capital expenditure between companies and unincorporated enterprises has

been derived by one of the following methods (both based on Inland Revenue statistics) :

a. Very rough estimates for the industry in question of the relative net outputs of companies and unincorporated enterprises; for this purpose the ratio of the sum of wages, salaries and profits for companies to the corresponding sum for unincorporated enterprises was taken;

b. The division of initial allowances for plant, machinery and vehicles between companies and unincorporated enterprises.

The method of sub-division of private capital expenditure between companies and unincorporated enterprises must be regarded as only approximate.

RELIABILITY

The reliability of the estimates in Tables 46 to 51 varies considerably according to the source of the information. The accounts and direct returns made by public authorities and public corporations can be classed as A⁽¹⁾. Estimates for manufacturing industry derived from the census of production must be classed as B, to allow for the fact that the basic data do not necessarily relate to the calendar year and that estimates must be made for small establishments; when the census results are derived from a sample of establishments, the estimates for individual industries are less reliable than the total for census industries. Estimates for the most recent year, derived from preliminary tabulations of the census, may be regarded as falling in category C.

Estimates for agriculture, and for distribution and other services, which are mainly derived from initial allowances, builders' returns, and other production data, must generally fall in category C.

There are some special points of weakness. The method of dividing total purchases of passenger cars between capital formation and consumers' expenditure is arbitrary (see page 124); the estimates of expenditure on new privately-owned dwellings depend in part on a very rough assessment of their average price; and the estimates of net purchases by each sector of existing buildings and land are in some cases very hazardous.

The estimates of expenditure at constant prices are in most cases less accurate than those at current prices. When, as for ships and road goods vehicles, the basic material is in terms of quantities, the figures at constant prices are more accurate than those at current prices. But in the most common case, where the basic material relates to expenditure at current prices, the estimates at constant prices contain an additional source of error in the price index used. Price indices for building and plant and machinery present a number of special and well-known problems.

⁽¹⁾ For the significance of the reliability gradings, see page 34.

Reliability of estimates of gross fixed capital formation by industry group

Margins of error

A \pm less than 3 per cent.B \pm 3 to 10 per cent.C \pm more than 10 per cent.

	<i>Latest year but one</i>	<i>Latest year</i>	<i>Estimated expenditure in 1954 £ million</i>
	1953	1954	
Agriculture, forestry and fishing	C	C	91
Mining and quarrying	A	A	84
Manufacturing	B	C	584
Building and contracting	C	C	55
Gas, electricity and water	A	A	300
Transport and communication	B	B	275
Distribution and other services	C	C	198
New dwellings:			
Public	A	B	422
Private	C	C	214
Social services	A	B	104
Other public services	A	B	81
Legal fees, and stamp duties, etc.	C	C	44
Total	B	B	2,452

DEPRECIATION

The only figures of depreciation given in the Blue Book are those set out in a table on page 66 of the Blue Book, 1955. As the footnotes to that table indicate, the figures for private enterprises (other than farmers) represent the statutory allowances for tax purposes⁽¹⁾; these allowances may differ from the depreciation provisions shown in enterprises' own accounts. For public corporations and Central Government trading bodies, the figures given in the table represent depreciation provisions shown in the published accounts *plus* estimated provisions for the renewals of certain fixed capital assets charged to revenue in those accounts.

These statistics of depreciation cannot be used in conjunction with statistics of gross fixed capital formation or of gross national product to measure net fixed capital formation or the national income. The general reason for this is the fact that the estimates are based (with a very few exceptions) on the original cost of the assets concerned. As pointed out on page 274 such estimates are not appropriate to national income measurement. In addition, the following points should be noted:

- (i) The figures make no allowance for the depreciation of a number of classes of fixed capital assets. Thus the figures exclude any provision for non-industrial buildings (for example, shops, hotels and offices)

⁽¹⁾ The figures cover annual allowances, initial allowances, investment allowances and balancing allowances.

owned by companies and unincorporated enterprises, no depreciation allowances being granted by the Inland Revenue on commercial buildings. Privately-owned houses and buildings owned by non-profit-making institutions serving persons are also excluded. Moreover nothing is shown in the table for fixed assets owned by non-trading branches either of Central Government or of local authorities.

- (ii) Basically the Inland Revenue allowances for plant and machinery and vehicles are computed by applying specified rates of wear and tear. The rates vary according to the class of machinery, the (basic) rates being related to the average expected life of each class⁽¹⁾. The allowances actually granted have however been affected by changes in the income tax legislation, in particular by the introduction and later suspension of "initial allowances", by variations in the rates of allowance, and, more recently, by the introduction of "investment allowances". These legislative changes have produced substantial changes from year to year in the level of the series shown in the table. Annex 2 to this Chapter (page 330) contains a short note on the Inland Revenue allowances.

The depreciation allowances for companies and unincorporated enterprises (other than farmers) shown in the table on page 66 of the Blue Book, 1955, although unsuitable for measuring net fixed capital formation or national income, are significant in the national income context because taxes on income have been levied on the basis of the net profits after deducting these allowances.

The sources of the figures are as follows:

Professional persons, other sole traders, companies and local authorities—The figures are obtained by the Inland Revenue from their tax records in a similar way to the figures of profits (see Chapter VI); figures for the two latest years are liable to amendment.

Farmers—The estimate consists of depreciation of machinery, lorries and vans, and farmers' fixtures (e.g. portable silos, pig and poultry houses), etc., but excludes all buildings. The estimate is on a replacement cost basis and is part of the calculation of farmers' net income made annually by the Ministry of Agriculture, Fisheries and Food. The estimates for machinery, lorries and vans are derived from the periodic machinery censuses, supplemented by information on the number of new machines produced each year and the average price of these new machines and assumed rates of depreciation.

Public corporations—The depreciation provisions have been extracted from the corporations' accounts in the same way as the figures for trading surpluses (see Chapter VII).

Central Government—The figures have been taken from the published trading accounts, the financial year figures being interpolated to give calendar year estimates.

⁽¹⁾ Many of the rates of depreciation, agreed between the Inland Revenue and industry, are set out in the Inland Revenue's publication *Income Tax: Wear and Tear Allowances for Machinery or Plant: List of percentage rates* (H.M.S.O., 1953).

6. CAPITAL FORMATION IN STOCKS AND WORK IN PROGRESS: GENERAL CONCEPTS

A general description of the concept of stocks and work in progress (both of which are to be regarded as included in the term "stocks") has been given on page 272. With the exceptions noted below, the only stocks taken into account here are those held by trading enterprises and entered as assets in their balance sheets (so that increases in such stocks are added to sales *less* expenses in arriving at figures of trading profit). Expenditure incurred by persons, and by the non-trading branches of the Central Government and local authorities, in increasing the quantities of goods they hold, is treated as consumers' expenditure or as current expenditure of public authorities. Exceptions to this rule are: (a) expenditure by the Central Government on building up stocks of food and raw materials, for strategic reasons, is here treated as capital formation in stocks, and (b) sales of surplus government stores located in the United Kingdom are here treated as negative capital formation.

Domestic capital formation is defined to include only the stocks of enterprises operating in the United Kingdom, including stocks of such enterprises held abroad (although in fact these are not always ascertainable)⁽¹⁾.

There are two special features of the estimation of stock changes: the first is the absence of complete data, which is more marked in this field than in any other part of the system of national accounts, as will be seen in the discussion of sources later in this chapter; the second is the problem, both conceptual and practical, of the appropriate valuation of stock changes.

The valuation of stock changes

The essence of the problem is that in times of rising prices commercial accounting data, from which most of the available statistics of stock changes are derived, record greater investment in stocks, and correspondingly greater profits, than seems justifiable on the principles adopted for national income accounting; in times of falling prices, commercial accounting methods show lower investment in stocks and lower profits. A method of adjusting the accounting data is therefore adopted for the measurement of national income and expenditure; this adjustment requires an equal subtraction (described as "stock appreciation") from accounting figures of profits and from the change in value of stocks when prices are generally rising, and an addition when prices are generally falling. The origin of this problem, and the method of dealing with it, are described in general terms in the following paragraphs. A more detailed account of the method of statistical adjustment is given at the end of this chapter (page 324).

The national income has been described (in Chapter I) as the resources available for consumption or adding to wealth. Part of this "adding to

⁽¹⁾ Two special cases may be noted. Changes in stocks of United Kingdom-Dominions Wool Disposals Ltd. are included, although the stocks were located abroad and the enterprise should be (but is not) treated as an enterprise operating chiefly abroad; this preserves consistency with the balance of payments white papers. On the other hand, sales of government surplus stores located abroad are not included.

wealth" may consist of an increase in stocks and work in progress. How is such an increase in stocks to be valued? Any such valuation must be arbitrary, in contrast to the valuation of final expenditures which can be valued objectively at the market prices (or factor cost) at which goods and services are sold to final users; the essential feature of stock changes is that they represent uncompleted and "unrealised" transactions.

The question may be put in another way. The trading surplus of a manufacturing enterprise is its sales receipts *less* its current costs. How should that part of its current costs which represents materials used be valued? Again, the valuation must be arbitrary because the *use* of materials is not in itself an actual market transaction. The internal transfer of materials from stock into the manufacturing process is a notional transaction, the valuation of which affects the measurement of the trading surplus and profit and of the change in stocks.

These two questions—the valuation of the change in stocks, and the valuation of materials used (which affects profit)—must be answered consistently. The problem of valuing these imputed transactions is common to both commercial accounting and the measurement of national income and expenditure. For either purpose, the solution is necessarily arbitrary.

Accounting valuations and national income concepts

The solution most commonly adopted for commercial accounting is to value materials used at their original cost on the assumption that the materials are used in the order of their acquisition (the "first in, first out" or FIFO hypothesis). Hence, when prices are rising, the stock of unused material or work in progress at any point of time is deemed to consist of the most recent acquisitions and is valued at the actual prices paid for those acquisitions (with some addition for manufacturing costs in the case of work in progress). It is not of course necessary explicitly to put a valuation on each unit of material used; the same result is reached by reckoning profit as receipts from sales *less* actual expenditure *plus* the closing stock valued at cost *less* the opening stock valued at cost. (The closing stock may be regarded as an imputed sale to the following period of account, the opening stock as an imputed purchase from the previous period of account). But this method of valuing stock *implies* the valuation at their original cost of acquisition of the materials deemed to be used.

If, however, the market prices of some of the commodities held in stock are lower on the balance sheet date than recent costs of acquisition, those items of stock will normally be valued at the lower market price.

The effect of this method of commercial accounting when prices are rising is that current costs attributed to materials used in production in a year are less than the average costs of purchasing during the year the quantity of materials required to replace the stock used. Hence, a higher operating profit will appear than would be the case if the materials used were charged to operating account at the prices at which they could be currently replaced; this extra profit will be absorbed in the replacement of stocks.

For national income purposes, it appears appropriate—and generally more consistent with the valuation of all transactions, actual or imputed, at the

prices current in the period of account—to treat as a current cost all expenditure required to maintain intact the physical quantity of stocks. Hence the internal or imputed transaction of using materials should, for national income purposes, be valued at the current, or replacement, prices; this implies that profit should be the excess of sales receipts over costs of factors of production used, valuing the materials incorporated in the sales at replacement prices. Profit should be recorded after charging to operating account the replacement cost of maintaining intact the *physical quantity* of stocks. By contrast, in the system of commercial accounting described, what is charged to operating account is the cost of maintaining intact the *money value* of stocks.

From the point of view of stock valuation, the difference between the two methods may be put as follows. Commercial accounting (if prices are rising) will record as a rise in assets in year n any rise in the money value of stocks due to the rise in prices between the latter part of year $n-1$, when the opening stock of year n is deemed to have been acquired, and the latter part of year n , when the closing stock of year n is deemed to have been acquired. In national income accounting, every change in stocks, throughout the year, should strictly be valued at current replacement prices (to match a corresponding valuation at current replacement prices of materials used), so that changes in value of stocks reflect only changes in physical quantities. The rise in assets shown by commercial accounting as due to the rise in the prices at which stocks are valued should be regarded from the point of view of national income accounting as a capital gain (an imputed and unrealised capital gain), not as income.

Correspondingly, when prices are falling the loss on stock values, which appears as part of trading losses in commercial accounting, would be treated for national income purposes not as an offset to income, but as an (imputed) capital loss.

It should be said that the combination of valuation at "cost or market price", whichever is the lower, with the FIFO hypothesis is not of course the only method of stock valuation used in commercial accounting. The principal variants are specifically designed to moderate the effect on stock values and profits of rapid changes in prices.

a. The first variant is to use the "last in, first out" (LIFO) hypothesis in combination with valuation at cost, or at "cost or market price". The most recently acquired materials are deemed to be used first. When the volume of stocks is rising the materials used at any time are thus valued at approximately the prices prevailing at the time of use; this is practically identical with the "national income" method of charging materials used at replacement price. Stock appreciation would not then arise. When the volume of stocks is falling, however, the materials deemed to be used at any time are valued at market prices of an earlier time (usually a time less distant than would be assumed on the FIFO hypothesis). Some stock appreciation may arise, but probably less than under a FIFO system. The valuation of the unused stock under the LIFO system, however, is admittedly arbitrary; so long as the physical volume of stock is unchanged, it is valued at the same prices as the opening stock, and no change in prices during

the accounting period is reflected in a change in the value of stocks. But when the volume of stock changes, the valuation put on the change is not necessarily based on current prices.

b. Other methods of valuation, such as standard costing, "average price", or "base stock" methods, are also essentially methods of minimising the reflection in the profit and loss account of the effect on stock values of price changes.

Methods of adjustment

It follows from the objectives of national income accounting set out above that, in an ideal system of accounts, the internal transactions occurring when materials are used in production, and when goods are finished and transferred temporarily to stock, would be valued at the prices current at the time of use or transfer. If all such internal transactions could be recorded, there would be no need to value arbitrarily the stocks in hand at the beginning and end of the year; all additions to, and withdrawals from, stock would be accounted for as they occurred, and the need for valuing stocks at a point in time would not arise.

In practice, of course, the material does not exist from which estimates on these principles could be compiled. An indirect approach must therefore be made by seeking to measure the *physical* change in stocks, using chiefly the data relating to the accounting values of stocks at the beginning and end of the year. The method adopted in the United Kingdom—similar methods are used in other countries facing the same statistical problem—is to revalue the accounting figures of both opening and closing stocks, by the use of price indices, at the *average market prices* of the year. The difference between the revalued opening and closing stock is then treated as the net investment in stocks at current prices for national income purposes.

It must be emphasised that this method does not give the same result as would a complete revaluation at replacement prices of materials added to, or withdrawn from, stocks. It would give a close approximation if the quantity of stocks held rose or fell at a uniform rate throughout the year. The difference arises from the fact that the simple average of prices during a period is extremely unlikely to be the same as an average of, say, daily prices weighted by the increments or decrements in stock of each day. The method outlined, however, seems to be the nearest practicable approach to the result that would be secured if the imputed transactions of transferring materials from or to stock were to be valued at the replacement prices current at the time.

The difference between investment in stocks, or the value of the change in the physical quantity of stocks, measured in this way, and the value of the change in stocks shown by the accounting data, is the amount of "stock appreciation", which may be positive or negative. The statistical methods employed for the revaluation are described in more detail on page 324. It will be clear that any such revaluation can be no more than a rough approximation. In particular it should be realised that the process of revaluation depends on an assumption about what the accounting data represent. The basic assumption made here is that the accounting data on stock values

refer to original cost or market price, whichever is lower, in combination with the FIFO principle. It is, however, known that in fact other methods of valuation are adopted by some firms (although it is quite uncertain how far such methods are employed in providing the figures in the census of production and other sources from which the accounting data are taken). But the characteristic, indeed the purpose, of these alternative accounting methods is that they minimise the extent to which price variations affect the recorded stock values, as compared with the combination of "cost or market" with the FIFO principle. Hence the basic assumption used must almost certainly exaggerate the amount of stock appreciation (whether positive or negative) and must understate the physical increase in stocks if stock appreciation is positive, and overstate the physical increase if stock appreciation is negative.

It is quite impossible to make any accurate allowance for the influence of these alternative methods of accounting. But the *a priori* reasons given for the existence of a systematic bias are supported by other evidence. In Chapter III a description was given of the two alternative methods of calculating changes in real output—the "output" approach and the "expenditure" approach. The differences between the results of these two approaches were pointed out. The general tendency is for the "expenditure" method to show smaller increases in gross domestic product than the direct measurement of output, the discrepancy in the original calculations being indeed greater than appears in the Blue Book tables. One reason for this difference may well be an understatement, in the "expenditure" approach, of the physical increase in stocks as calculated by revaluing accounting data.

It has, therefore, been assumed that the method used in the first place for calculating stock appreciation contains a systematic bias. The estimates of physical stock changes and stock appreciation appearing in the Blue Book incorporate therefore an adjustment for this bias.

The estimates of both profits and stock changes are shown in the Blue Book on a double basis. The profits and stock changes recorded in the accounting data, before adjustment for stock appreciation, are shown throughout. The adjustment for stock appreciation, because of its hazardous nature, is not shown in detail for each industry; all that is shown is a figure for each sector (even less reliable than that for the economy as a whole). But apart from the difficulties of estimation, it is still desirable that profits as recorded in the accounting data should be displayed (and, although perhaps with less reason, the corresponding stock changes). These figures represent the profits as normally stated by firms; they may well be more important for the study of business trends than the figures of profits adjusted to national income concepts. Further, it is the unadjusted profits to which tax liability is related; the unadjusted figures are essential to any analysis of the relation between taxation and profits. On the other hand, the estimate, however uncertain, of the change in the physical volume of stocks, measured in accordance with national income concepts, is essential for any study of changes in the real wealth of the nation; and the corresponding estimate of adjusted profits is essential to study of the growth of national income and its distribution between the factors of production.

7. STOCKS AND WORK IN PROGRESS: THE BLUE BOOK TABLES⁽¹⁾

Two analyses of stock changes are shown, by sector and by groups of industries.

Capital formation in stocks and work in progress by sector (Table 52 of Blue Book, 1955)

This table is an analysis of stock changes by sector. For each sector is shown (a) the increase in value of stocks, derived chiefly from the accounting data; (b) the estimated amount of stock appreciation; and (c) the value of the physical increase ((a) less (b)). An estimate is also given for each sector of the total value of stocks held at the end of 1953.

Stocks held by "*Persons*" represent exclusively stocks held for business purposes by farmers, professional persons and other sole traders and partnerships.

The changes in stocks held by *public corporations* do not include transfers of stocks resulting from the acquisition of undertakings transferred to them (for example, the stocks transferred to the Raw Cotton Commission, on its establishment, from the Board of Trade).

Central Government trading stocks represent stocks held by trading bodies (as listed on page 223), principally now the trading branches of the Ministry of Agriculture, Fisheries and Food and the Board of Trade. Stocks of the United Kingdom-Dominions Wool Disposals Ltd. (in fact disposed of by the end of 1951) are also included.

Strategic stocks are stocks of food and raw materials, etc., purchased under the strategic stockpiling programme. The figures represent purchases at cost (less receipts for any sales) and no adjustment for stock appreciation is therefore required.

Disposal of surplus stores represents the proceeds of sales in the United Kingdom of government stores (mainly surplus stores of the Service departments) other than disposals of fixed assets such as machinery⁽²⁾. These proceeds are thus treated as a form of disinvestment. It is recognised that this treatment is not wholly consistent with concepts of capital formation linked with a "national balance sheet"; the original purchase of the stores would have been treated as government current expenditure (e.g., on defence) and would not therefore have been entered as an increase in government assets. The treatment adopted here thus implies that a capital gain accrues to the government when the stores are sold.

Although *local authorities'* trading enterprises presumably hold some stocks, no information relating to them is included in the *Local Government Financial Statistics*, and they are therefore ignored.

The values of stocks held at the end of 1953 by each sector are expressed at the various accounting valuations.

⁽¹⁾ References are to Blue Book, 1955.

⁽²⁾ Fixed assets sold as surplus stores are treated as government sales of fixed assets, and as purchases by a private sector of second-hand fixed assets, and thus balance each other in the sector analysis of fixed capital formation.

Capital formation in stocks and work in progress by industry

The classification follows so far as possible the *Standard Industrial Classification*. The figures for the industry groups represent changes in the value of stocks; for reasons already given it has been found impracticable to state the amount of stock appreciation for individual industry groups.

Agriculture and forestry includes increases in the value of livestock, growing crops and standing timber. The figures for "*other industries and services*" are mainly very rough estimates for a number of industries including wholesaling; some details of the composition of stocks in this industry group are given on page 321.

8. STOCKS AND WORK IN PROGRESS: STATISTICAL SOURCES

THE MAJOR SOURCES

Basic information about stock changes, like that about fixed capital formation, is mostly obtained from what are essentially accounting data. The figures mostly relate, therefore, to *changes in the value of stocks* and are to that extent consistent with the statistics of trading profits. The method of adjustment for stock appreciation is described later.

Until 1951, it was impossible, from the information available, to attempt to build up an estimate of the total change in the value of stocks brick by brick. Although there was always a certain amount of fragmentary information about particular categories of stocks, serving to some extent as a check on the total, the change in total stocks was necessarily obtained as a residue (see page 289). When it became possible to use the results of the annual census of production (which covers industries holding nearly half of total stocks), the biggest single gap was filled; the estimates for 1948 (the year of the first post-war census) and subsequent years are now derived from annual information of some kind for each significant stock-holding industry.

It must be admitted, however, that for three reasons the estimate of the change in value of total stocks is still open to substantial error.

There are still areas where the information about current stock changes is not only incomplete but possibly very unrepresentative. This applies particularly to wholesale distribution. The proportion of total stocks covered by such inadequate information may be only 10 to 15 per cent., but this is a section where stock changes are likely to be especially volatile. The coverage of much of retail stocks is also unsatisfactory, as will be seen below.

The problem of securing *consistency* of data is particularly acute in connection with statistics of stocks. The statistics may be complete and accurate, but recorded at a different stage of distribution, or at a different time, from the statistics of other forms of national expenditure. For instance, estimates of consumers' expenditure are often derived, not from data referring directly to consumers' retail purchases, but from statistics of supplies available as shown by production and import data; they do not therefore take account of changes in stocks at all points in the chain of distribution. Hence an increase in supplies of a particular commodity may appear in the estimates of national expenditure as a rise in consumers' expenditure and also be

double-counted as a rise in distributors' stocks. This problem of consistency also arises in connection with the treatment of imports and exports. In principle, the system of recording imports for calculating international transactions (see pages 341-342) should have the result that a purchase enters simultaneously into imports and into the stock of the United Kingdom resident enterprise which makes the transaction. In practice, this consistency cannot be guaranteed and at times when the level of imports (or exports) is changing rapidly there may well be very substantial inconsistency between imports and exports and the stock estimates. Some conjectural adjustments are made for obvious known cases of inconsistency of the kinds described, but accurate correction is impracticable.

A special risk of inconsistency arises from the fact that much of the data used for stock changes (census of production, data from published balance sheets) is based on figures relating not to the calendar year but to the accounting year of the reporting enterprises. This is a general defect of such data, but may be more serious for estimating changes in stocks, which can change rapidly from month to month, than for estimating more stable elements. No adjustment is made for this source of possible error.

The census of production

The annual census of production asks for figures of opening and closing stocks divided between (i) materials and fuel, (ii) work in progress and (iii) stocks of finished products⁽¹⁾. The instructions on the census form ask that valuation of stocks should be on the basis accepted by the Inland Revenue for tax assessment purposes; this is normally likely to be the accounting valuation described on page 310.

The census covers establishments engaged in manufacturing industry and certain other industries; the census schedules sent to the building industry omit questions on stocks and work in progress. The principal features of the census affecting its use for national income statistics generally are described in Appendix II (page 350). Some special features relevant to stocks statistics are:

a. Estimates for small establishments, from which the census asks only for information on labour employed, are made by assuming that the stock change per head, in each trade, is the same for small as for large establishments.

b. The instructions on the census schedule ask that work in progress be measured for census purposes before deduction of any progress payments that may have been received, and excluding any progress payments that may have been paid to sub-contractors or out-workers. Although necessary for census purposes to arrive at a measure of net output in a given year, this may lead to inconsistency with the figures of capital expenditure on fixed assets; an increase in work in progress, for example on electricity generating plant, may be reported as a rise in stocks by the manufacturer, and also as an item of capital expenditure, to the extent that progress payments have been made, by the purchaser. The extent of such double-counting is probably small. The major cases in which it

(¹) See Annex 1 to this Chapter (page 328) for relevant section of specimen census schedule.

would arise are building and shipbuilding. The estimates for shipbuilding are designed so as to rule out duplication (see page 320); particulars of changes in work in progress in the building industry are not given in the census, and the rough estimates made in the Blue Book exclude in principle those changes which are likely to be covered by the estimates of fixed capital expenditure.

c. The instructions on the census schedule ask that the return should omit the operations of any (separate) selling organisation for which separate accounts are kept. The effect of this is that some stocks of finished products held by manufacturers' selling organisations, most stocks held abroad, and perhaps some stocks of materials held by central purchasing organisations, are omitted from the census. No adjustment can be made for this, and it is doubtful whether the stocks of such selling and buying organisations are in fact covered by the current data relating to wholesale trade.

The statistics from the census for the latest year shown in the Blue Books, and to a lesser extent those for the previous year, are derived from incomplete results.

Quarterly returns of stocks of manufacturers

To obtain more frequent data of stock changes for current analysis of the economic situation, a quarterly return of stocks and work in progress is now obtained by the Board of Trade (beginning in September 1953) from about 150-200 manufacturing firms on a voluntary basis. This return relates chiefly to large firms, holding about one third in value of total manufacturing stocks, and although not a random sample, is taken to be representative of stock changes in the census of production field for manufacturing industry as a whole⁽¹⁾. It is however known that a few of the contributing firms prepare quarterly stock returns on a somewhat different basis (e.g. as regards valuation) from the basis used for the balance sheet and for the census of production. The data from the quarterly returns are used to estimate stock changes in the latest year shown in the national income white paper, which appears before any census results for that year are available; they are also used, in conjunction with advance estimates from the census, in preparing estimates for the latest year shown in the Blue Book. The coverage of these sources is not, however, wide enough to permit reliable estimates for individual manufacturing industries.

Census of distribution

The first census of distribution, relating to the year 1950, included statistics of stocks of goods and materials for sale or processing held by the wholesale and retail trades at the beginning and end of the year. As with the census of production, reporting firms could give data for their own accounting year. Instructions asked that stocks be valued "at cost or market price whichever was the lower" (with the option, in the case of wholesale trades, of returning the values adopted for balance sheet purposes). The published data for both retail and wholesale trades⁽²⁾ are used to establish the total level of stocks held in 1950 and to provide weights for the current indicators of stocks in distribution.

⁽¹⁾ Some summary results were published in the *Board of Trade Journal*, 14th January, 1956.

⁽²⁾ *Census of Distribution and Other Services 1950: Vol. II Retail and Service Trades (1954); Vol. III Wholesale Trades (1955).*

Stocks of large retailers and wholesale textile houses

As a current indicator of changes in retail stocks, use is made of the monthly returns to the Board of Trade from a reporting panel of department stores and multiple shops, showing percentage changes in the value of stocks (at cost to retailer) in association with returns of sales⁽¹⁾. It cannot be claimed that these returns are representative of the whole of retail trade. Returns of stocks are not made by co-operative societies nor by independent retailers. A similar return of stocks of wholesale textile houses is collected by the Wholesale Textile Association.

Published accounts and returns from public authorities and public corporations

Use is made of the published accounts of *Central Government* trading bodies⁽²⁾. The annual accounts normally relate to years ending on 31st March, but for the principal trading branches quarterly returns are received and are used for the estimates of stock changes in calendar years. These quarterly returns also include statements of the quantity of stocks of most commodities, so that the value of the physical change is estimated independently of the change in value.

For the *public corporations*, the annual statements of accounts are the main source. These relate to the corporations' own accounting years (which is the calendar year for the National Coal Board and the British Transport Commission). Quarterly returns of stocks are collected from some of the corporations, including the gas and electricity authorities. For some others, calendar year figures are obtained by interpolation of financial year data.

Published accounts of companies

The annual accounts of co-operative societies, including balance sheet figures for stocks, are shown in the *Statistical Summary of Co-operative Societies* issued by the Registrar of Friendly Societies⁽³⁾. Retail and wholesale societies are shown separately. The returns are for calendar years.

For some non-manufacturing industries, including much of wholesale trade, use is made of the balance sheet data of stocks in the accounts of public companies circulated by *Mooody's Services*. The data, of course, relate to the accounting years of the firms concerned. The public companies included in this collection of accounts may not of course be representative of the whole field, and there is some risk of overlapping with the census of production and other data. There is also doubt as to the extent to which stocks located overseas are included in a manner consistent with the balance of payments.

Inland Revenue analysis of company accounts

The annual reports of the Inland Revenue contain analyses by industry groups of the operating accounts of a number of companies with profits of over £2,000, including figures of stock changes. The analyses available, however, relate only to trading in 1936-38, 1948, 1949 and 1950⁽⁴⁾. The

⁽¹⁾ Published monthly in the *Board of Trade Journal* and (in summary form) in the *Monthly Digest of Statistics*. Reference is made on page 100 to improvements at present in progress in the coverage of these returns.

⁽²⁾ *Trading Accounts and Balance Sheets and Post Office Commercial Accounts* (See page 227).

⁽³⁾ Reproduced in the *Ministry of Labour Gazette*.

⁽⁴⁾ See the 96th Report of the Commissioners of Inland Revenue, Tables 84-97.

data analysed in these reports have been used for estimating stock changes in several non-manufacturing industries in the years covered. The figures given are grossed up to cover all companies and sole traders and partnerships by reference to total "personnel costs".

Statistics of the quantities of stocks

The sources so far described relate principally to accounting figures showing changes in the value of stocks. For a large number of primary commodities, however, regular returns are made to government departments, or to trade associations, of the physical quantity of stocks, mostly on a monthly basis. Such returns cover the major primary foodstuffs, raw materials, tobacco, coal and steel⁽¹⁾. The coverage of these returns varies: some relate only to stocks held by merchants, or by merchants at some stages only in the distribution chain; others include stocks held by manufacturers. Such returns cover in total about £1,250 million, or one-sixth in value of the total stocks and work in progress of all kinds. Although these stock statistics are of great value for analysing short-term changes in the market position of the commodities concerned, they are difficult to use for computing changes in aggregate stocks, especially for the following reasons:

a. Most of the quantity data refer only to stocks located within the United Kingdom. Hence their consistency with the import statistics used for estimating the balance of payments is in doubt, as is their consistency with any data based on balance sheets (since the latter sources include some stocks abroad and afloat).

b. They relate to selected commodities, mainly primary commodities. To an uncertain extent, these stocks are also included in the more comprehensive value figures of stocks and work in progress collected in the census of production and similar returns. Hence, the two kinds of sources cannot easily be used together, and the more comprehensive value data must be preferred.

However, the quantity data are so far as possible divided between the holding industries, and the figures relating to private merchants (mainly import merchants) are used for estimating stock changes in wholesale trade. With the replacement of government importing by private trade, these returns are in fact becoming of increasing importance.

For consistency with nearly all the other stock statistics, and with the profit estimates, the quantity data (although used directly to estimate the physical change in stocks) are also valued on a rough accounting basis to contribute to the estimate of overall change in value of stocks.

ANALYSES OF STOCK CHANGES

Analysts by industry

It will be clear from the list of sources just given that the stock figures must be built up primarily industry by industry. The statistics in broad industry groups (showing, for each, changes in the value, but not in the physical quantity, of stocks) are presented in Table 53 of Blue Book, 1955. The sources used for each industry are as follows:

⁽¹⁾ Many of these statistics are published in the *Monthly Digest of Statistics* and elsewhere.

Agriculture and forestry : The estimates shown include increases in the value of livestock and growing crops. The Ministry of Agriculture, Fisheries and Food provide estimates of stock changes on farms during each crop-year 1st June to 31st May from the same sources as the estimates of farmers' income (see page 93). The figures of stock changes in successive crop years have been combined in the proportions of 5/12 and 7/12 to give estimates of calendar year stock changes. This cannot be regarded as a satisfactory method of estimating stocks at the end of the calendar year, which are subject to seasonal characteristics. However, the figures obtained in this way are consistent with the farm income figures. Changes in numbers of breeding livestock are included in estimates of stock changes, but changes in the average value per head of such livestock are ignored; this contrasts with the practice of valuing trading livestock at cost. For forestry, the estimates relate to the operations of the Forestry Commission, increased by 25 per cent. to cover private stocks, and include the increase in the value of standing timber valued at cost. The figures for the Forestry Commission are derived from their trading accounts.

Mining and quarrying : The figures for coalmining are from the published accounts of the National Coal Board, and those for other mining and quarrying from the census of production.

Manufacturing industry : The main source is the census of production (for the most recent year, the quarterly returns of manufacturers' stocks are used as well). To be consistent with the estimates of fixed capital formation (see page 298), nothing is included under the shipbuilding industry for changes in work in progress on ships under construction for United Kingdom owners; but an approximate allowance is included for ships under construction for overseas owners, equal to half the change during the year in the tonnage of ships under construction for export multiplied by an average value per ton. Estimates for the Mint and for the Royal Ordnance Factories are derived from their trading accounts.

Retail trade : This item covers all retail distribution except electricity and gas showrooms (i.e. the retail component of Order XX of the *Standard Industrial Classification*). The basic figures are estimates of stock held at the end of 1950, derived from the 1950 Census of Distribution. Figures for year to year changes are derived mainly from the monthly statistics of retail stocks, which refer only to a sample of large retailers. It has not yet been possible to collect stock statistics from small retailers. The assumption is made that the series available for large retailers can be taken to represent all retailers—an assumption obviously open to question.

Electricity, gas and water : The figures for electricity and gas are from the published accounts of the public corporations concerned, interpolated where necessary to give calendar year estimates; for 1954 and later, quarterly figures are supplied by the Ministry of Fuel and Power from information supplied by the corporations. These figures include stocks of appliances etc. held for sale through electricity and gas sale-rooms. Comprehensive statistics for years before 1949 are not available, as the corporations were established only in 1948 and 1949; the figures for these services for 1948 are therefore included in "Other industries and services". For water, census of production estimates have been used.

Other industries and services: This covers fishing; building and contracting (excluding the building and contracting establishments of public undertakings); transport and communication; wholesale distribution, excluding the trading branches of Central Government; insurance, banking and finance; professional services; and miscellaneous services. The estimates of year to year changes in individual industries in this group are not reliable enough for publication. But an approximate analysis by industry of the value of stocks held in these industries at the end of 1953, as valued for balance sheet purposes, is:

	£ million
a. Building and contracting	474
b. Transport and communication	173
(i) Public corporations	105
(ii) Companies, sole traders and partnerships	68
c. Wholesale distribution	900
(i) Raw Cotton Commission	50
(ii) Companies, sole traders and partnerships	850
d. Other	277
Total (as in Table 53, final column).	1,824

The sources of the estimates for this group are as follows:

a. *Building and contracting:* In accordance with the convention adopted for national income purposes in defining capital expenditure on building work, explained on page 275, the estimates for stocks and work in progress of the building industry should include (i) builders' stocks of materials and fuel and (ii) building work in progress less progress payments; it is believed that this generally follows normal accounting practice. To the limited extent that estimates of other items of national expenditure measure building work done rather than amounts payable (e.g. estimates derived from returns from builders of work done), the second element (ii) should be excluded. In practice the information available on builders' stocks and work in progress is very scanty. Published balance sheet data for public companies cover only a small fraction of the industry. The estimates of stocks at the beginning and end of 1948 and 1949 were derived from the Inland Revenue analysis (referred to on page 318), and these were projected to later years on the basis of balance sheet data for public companies and data on the changes from year to year in the gross output of the building industry; allowance is made for the fact that to a large extent changes in work in progress are treated as fixed capital formation.

b. *Transport and communication:* For public corporations the figures are taken from published accounts, interpolated where necessary to give calendar year estimates. For companies, sole traders and partnerships, the 1948 and 1949 figures were derived mainly from the Inland Revenue analysis and were projected to later years on the basis of data from published company accounts.

c. *Wholesale distribution* (excluding Central Government trading): The information for this industry is far from satisfactory. Figures for *wholesale*

co-operative societies are taken from the summary information published by the Registrar of Friendly Societies. For *wholesale textile houses*, figures for 1950 are derived from the census of distribution and year to year changes from the index of stocks of certain wholesale textile houses. Figures of stocks held by *textile converters* (allowing for some overlap with the previous category) are taken from the census of production. This industry also includes the Raw Cotton Commission; stock estimates are based on published accounts and information supplied by the Commission. A certain amount of information is available about the quantities of stocks of certain *primary commodities* held by merchants (see page 319). This material is used for a number of primary foods, raw materials and fuels, including tobacco in bonded warehouses. There remains a large area of wholesale merchants' stocks for which little current information is available. Base-year data are available from the census of distribution (excluding so far as possible the merchants likely to be covered by the sources already referred to); the indicators of year to year changes that can be used are the balance sheet data for a small number of public companies which may not be representative. It is in this area, where stock changes may well be substantial, that perhaps the greatest chance of error lies.

Central Government trading bodies: The estimates are derived from the published trading accounts⁽¹⁾ and current information supplied by departments. The Forestry Commission and the Royal Ordnance Factories are excluded, their stocks being included in Agriculture and Forestry, and Manufacturing, respectively. For a list of the bodies concerned see page 223.

Central Government strategic stocks: The figures shown are from direct returns from the departments concerned of the value (at cost) of stocks purchased, less receipts from sales.

Disposal of Government surplus stores: The estimates are from direct returns from the departments concerned, of their cash receipts from disposals in the United Kingdom, less the component representing estimated receipts from the sale of stores regarded as fixed assets.

Analysis by sector

The analysis by sector of the increase in value of stocks shown in Table 52 has been obtained by sub-dividing between the different sectors each of the items of Table 53 (the analysis by industry) and aggregating the results in order to obtain sector totals. For most industries, only a single total covering stocks held by both companies and unincorporated enterprises is available (e.g. from the census of production). The division of the increase in value of stocks between companies on the one hand, and unincorporated enterprises on the other, is in most cases based on estimates of the relative net outputs of companies and unincorporated enterprises; for this purpose the ratio of wages, salaries and profits for companies to the corresponding sum for unincorporated enterprises is taken. This method of dividing the increase in private enterprises' stocks may be subject to a wide margin of error.

⁽¹⁾ *Trading Accounts and Balance Sheets and Post Office Commercial Accounts.*

RELIABILITY

The following comments relate to the estimates of changes in the *value* of stocks, not to those of the value of the physical change. The criterion of reliability that seems to be relevant, and the only criterion that can be applied to the figures, is that the value of stock changes should be recorded in a manner consistent with the figures of profits, whatever the accounting conventions adopted by the enterprises.

For the Central Government and public corporations, comprehensive accounting data are used; the estimates can be regarded as in category A⁽¹⁾. The material for manufacturing industry is mainly derived from the census of production. The basic data in the census may be regarded as accounting data, but an element of estimation is involved for small establishments and the results do not necessarily relate to the calendar year. Hence the estimates are classed as B. The estimate for manufacturing industry for the latest year shown must be regarded as in category C.

The estimates for agriculture are put in category B. The estimates for retail trade and for "other industries and services" (including wholesale distribution) are derived from very incomplete data and are in category C. Largely because of the very wide margin of uncertainty surrounding the estimate for "other industries and services", where stock changes may be very large, the estimate of the total change in the value of stocks is classed as C.

In considering these gradings, some attention must be paid to the very variable amount of stock change. For instance, the change in manufacturing stocks in 1953 is estimated in Table 53 of the Blue Book, 1955 as only £9 million. The figure is graded as B (± 3 to 10 per cent.), and it might be assumed that there is very little chance that the figure is in error by more than £1 million. Such a literal interpretation of the gradings is not intended.

Reliability of estimates of changes in value of stocks

Margins of error

A \pm less than 3 per cent.B \pm 3 to 10 per cent.C \pm more than 10 per cent.

	<i>Latest year but one 1953</i>	<i>Latest year 1954</i>	<i>Estimated change in 1954 £ million</i>
Agriculture and forestry	B	B	+ 30
Mining and quarrying	A	A	- 1
Manufacturing	B	C	+ 292
Retail trade	C	C	+ 13
Gas, electricity and water	A	A	- 6
Other industries and services	C	C	+ 102
Central Government	A	A	- 130
Total.	C	C	+300

(1) For the significance of the reliability gradings, see page 34.

9. THE MEASUREMENT OF THE VALUE OF THE PHYSICAL CHANGES IN STOCKS AND OF STOCK APPRECIATION

It was shown above that an adjustment is required to the accounting data of changes in the value of stocks in order to secure an estimate of the real change in assets consistent with the general principles of national income measurement. The method adopted was described (page 312) as the revaluation of "the accounting figures of both opening and closing stocks, by the use of price indices, at the *average market prices* of the year". The difference between the revalued opening and closing stock is treated as the net investment in stocks at current prices; the difference between this figure of net investment and the change in value shown by the accounting data is treated as "stock appreciation".

Most of the original data, as already pointed out, relate to accounting values of stocks. In a few cases, data relating directly to the physical quantities of stocks are available, and the methods used for dealing with these data are described on page 326.

Revaluation of accounting data of stocks

The basic assumption must first be made that the accounting data derived from the census of production, the accounts of public corporations, and the other sources described above are based on stocks valued at original cost, or market price, at the balance sheet date, whichever is the lower, using the "first in, first out" (FIFO) principle for determining original cost. As pointed out, this assumption is certainly incorrect and probably introduces a systematic bias for which a very rough adjustment is subsequently made. However, the detailed calculations must be made in the first place by treating this assumption as universally valid.

The steps in the revaluation of opening and closing stocks at the average prices of each year are described below. The description applies primarily to manufacturing industry, for which a substantial amount of detailed information about the composition of stocks was contained in the Census of Production for 1948. For other industries, the calculations are more summary.

a. For each industry, an analysis is made of the composition of stocks at the end of 1948, separating (i) materials and fuel, (ii) work in progress and (iii) finished goods. The first and third classes are further subdivided by commodities as far as possible (but the figures in the census leave for each industry an unclassified residue of varying proportions and a great deal of estimating is necessary).

b. For each commodity or group of commodities identified in process (a), a suitable price index is found (normally using the indices of wholesale prices compiled by the Board of Trade). Three groups of price indices are then calculated for each industry: (i) a raw materials and fuel index, weighted by the values of commodities in stock at end-1948, (ii) a similarly weighted index for finished goods and (iii) an index for work in progress for which the unweighted average of (i) and (ii) is used.

c. The accounting values of stocks at the beginning and end of each year from 1948 onwards are then taken from census of production or other data; normally these data for years after 1948 show only a total for each of the three groups: materials and fuel, finished goods, and work in progress (this threefold division is not always available for the latest year or two and in such cases must be estimated by reference to the proportions in the latest year for which data are available).

d. For each year an estimate is made of the level of the end-year stocks in each category in terms of the number of months' purchases (or sales) which it represents (generally three or four months).

e. The price indices described at (b) are then set out as follows for each category of stocks for each year:

- (i) the price index at the end of the year (the index for the last month). This is assumed to represent the market price at the end of the year;
- (ii) the average price index for the period of the year covered by the number of months' purchases (or sales) held in stock at the end of the year, e.g. the average price index for October-December if three months' stocks are held. This is assumed to represent the original cost of the closing stock;
- (iii) the average price index for the whole year.

The value of the closing stock in each category at the end of each year is then adjusted by the ratio of (iii) to (i) or (ii), whichever has the lower value in each case. For example, if the values of the index in 1952 (1948=100) are (i) 150 (market), (ii) 140 (cost), (iii) 120 (average of year) then the value of the closing stock is multiplied by $\frac{120}{140}$ ⁽¹⁾. The value of the opening stock is similarly adjusted by the ratio of (iii) for the current year to (i) or (ii) for the previous year, whichever is lower.

The chief statistical weaknesses in the process of revaluation (apart from the basic assumption, already emphasised, about the nature of accounting valuations) are:

a. The large element of estimation in the commodity composition of the stock, and in the number of month's purchases which it represents.

b. The doubt surrounding the implied equality of the market prices used for the price indices and actual prices paid during the period (long-term contracts at special prices are a case in point).

c. The unavoidable, but certainly erroneous, assumption that the average prices of the year, as shown by the price indices, represent the average price of all actual or imputed stock transactions (e.g., for many agricultural commodities, only marginal purchases for stock are made at certain times of the year—say at the end of the season; yet the prices quoted at these periods, which are often abnormal, are given equal weight with prices at the major buying season). The inherent assumption in the calculation is that stocks change at a uniform rate throughout the year.

d. The difficulty of finding price indices for some categories of stock.

(1) For illustration of method see Annex 3 to this Chapter (page 331).

e. In most cases the accounting data for stocks represent an aggregate of stocks held at the end of each firm's accounting period. They do not in fact represent stocks at 31st December. Yet for the revaluation process, it is assumed that the data relate to 31st December. Where variations in stocks and prices during the year are substantial, and differ from industry to industry and from firm to firm, this assumption may introduce appreciable error.

Valuation of data showing physical quantities of stocks

Some figures relating to the physical quantities of stocks, mainly of primary commodities, are used. These are dealt with as follows:

a. Figures are available of the physical quantities of stocks held by the major Central Government trading bodies and by the Raw Cotton Commission. In these cases, the physical quantities are consistent with the corresponding accounting data. To show the value of the change in physical quantity, the changes in quantities are valued by average *c.i.f.* import values or average home market prices which are taken to represent the average values of actual transactions. The difference between the accounting data and the value of the physical change is the stock appreciation. Strategic stocks, however, are valued in the Central Government accounts at actual cost (less sales) which is the valuation required for the value of the physical change; no stock appreciation arises in this case.

b. Figures are also available of the physical quantities of certain stocks held by private traders. For estimating the value of the physical change, these stocks are valued in the same way as Central Government trading stocks. But the corresponding accounting values are not known. For consistency with all other stock data (except strategic stocks), a rough accounting value is put on them by using the price indices described above, taking cost (during the period covered by the number of months' stock in hand) or market price, whichever is lower. The difference between the two valuations is treated as stock appreciation.

Revaluation of net investment in stocks at constant prices

The value of the change in the physical quantity of stocks, estimated by the methods described above, is a measure in terms of the average prices obtaining in each year. For estimates of national expenditure at constant prices, a further revaluation is required, at base-year prices (1948). This revaluation is comparatively simple and is performed for each category of stock by essentially the same methods as the revaluation at current prices⁽¹⁾; it is however done in less detail, and with less accuracy, because many of the Board of Trade's new series of price indices begin only in June 1949 and other series must be used to carry the price indices back to 1948.

Presentation in the Blue Book of value of physical change and of stock appreciation

Although all the detailed calculations described are made for each industry, a further overall correction is then applied as described on page 313. For this reason, and because of the unreliability of the calculations, no figures of the value of the physical change in stocks, nor of stock appreciation, are given

(¹) For illustration see Annex 3 to this Chapter (page 331).

for individual industries. A rough attempt is however made to analyse stock appreciation by sectors (given in Table 52). This is derived from the analysis by industries in the same way as the analysis by sector of the change in value of stocks (see page 322).

Reliability

It will be apparent from the description of the methods of adjustment applied that, even when accurate accounting data of the change in the value in stocks are available as a starting point, the reliability of all the estimates of the value of the physical change, and of stock appreciation, must be regarded as very poor.

ANNEX 1

EXTRACTS FROM CENSUS OF PRODUCTION FORM FOR 1955

Questions on capital expenditure and stocks

CAPITAL EXPENDITURE (see notes 18 and 19)	STOCKS (see notes 23-29)
Plant, machinery and vehicles Cost of items acquired: 6. Plant and machinery £..... 7. Vehicles ... £..... Proceeds of items disposed of: 8. Plant and machinery £..... 9. Vehicles ... £..... New building work 10. Cost of new building or other construc- tional work of a capital nature charged to capital account during the year ... £.....	Materials and fuel: 12. At beginning of year £..... 13. At end of year ... £..... Work in progress: 14. At beginning of year £..... 15. At end of year ... £..... Products on hand for sale: 16. At beginning of year £..... 17. At end of year ... £.....

CAPITAL EXPENDITURE

18. *Plant, machinery and vehicles*

a. *Include* new and second-hand plant, machinery and vehicles for use in connection with the business covered by the return, including office machinery and renewals of plant, etc., which were of a capital nature, whether the plant, etc., were in use before the end of the year of return or not. Any items produced by you for your own use should be included in this section.

b. *Exclusions:*

- (i) *Exclude* plant, machinery and vehicles for use in any other business you may carry on, such as a merchanting or factoring trade, or a trade for which a separate census of production return is made. An estimate should be made where necessary.
- (ii) *Exclude* plant, machinery and vehicles for use by your firm for which payment is made by a government department.
- (iii) *Exclude* any contribution received by your firm from a government department towards the cost of plant, machinery and vehicles (the amount returned should be net of such contribution).

c. *The value shown* should be expenditure charged to capital account during the year of return; discounts received should be deducted but the cost of transport and installation should be included. No deduction should be made for depreciation, amortisation or obsolescence.

d. *Proceeds of items disposed of.* State the amount received for plant, machinery and vehicles sold or otherwise disposed of during the year of return which were previously charged to capital account. Include the estimated proceeds of insurance claims for items destroyed or damaged, but exclude amounts written off for items scrapped. Do not include normal trading sales.

19. *New Building Work*

a. *Inclusions :*

- (i) *Include* building and other constructional work (including office buildings, canteens and the like) for use in connection with the business covered by the return.
- (ii) *Include* the extension or reconstruction of old buildings.
- (iii) *Include* the cost of replacing any buildings destroyed by fire or war damage.
- (iv) *Include* work of a capital nature carried out by your own labour force.
- (v) *Include* any newly-constructed buildings purchased.

b. *Exclusions :*

- (i) *Exclude* old buildings acquired by you.
- (ii) *Exclude* building or constructional work for any other business you may carry on, such as a merchanting or factoring trade.
- (iii) *Exclude* dwelling houses for employees.
- (iv) *Exclude* any items already included under "plant, machinery and vehicles".

c. The value shown should be expenditure incurred on new building work which was charged to capital account during the year of return, whether the buildings were in use before the end of the year or not. Exclude all expenditure so charged before the beginning of the year. Exclude site values and development charges and the amount of any legal charges, stamp duties, agents' commissions, etc., incurred. Estimate where necessary.

STOCKS

23. *State* the value of stocks held at the beginning and end of the year of return. Values should be those used or to be used in connection with tax assessment.

24. *Exclude* stocks required for any business other than that covered by the return (for example, a merchanting trade).

25. *Progress payments received.* Do not deduct anything from the value of "Work in progress" on account of progress payments received from customers.

26. *Progress payments made.* Do not include any progress payments made by you to sub-contractors working on their own materials.

27. *Work being done for you on commission.* Include against "Work in progress" (not against "Materials and Fuel") the value of any materials or semi-manufactured goods which you have supplied to outworkers or firms working for you, but do not add any interim commissions paid to them.

28. *Work being done for others on commission.* Do not include the value of the materials supplied to you, but include against "Work in progress" the value of the work you have done on them at the respective dates. Do not deduct any interim commissions received.

29. *Estimation of figures.* Separate values should be given for each heading, estimates being made where necessary. If you are quite unable to distinguish between work in progress and products on hand for sale, these headings may be bracketed. Separate figures must, however, be shown for stocks of materials and fuel.

ANNEX 2

NOTE ON INLAND REVENUE DEPRECIATION ALLOWANCES
(see page 307)

For plant and machinery, vehicles and industrial buildings (but not commercial buildings) acquired between 6th April, 1946, and 5th April, 1954, the depreciation allowances granted by the Inland Revenue in respect of each fixed capital asset have consisted of a series of annual allowances designed to cover the whole of the assumed life of the asset together with an "initial allowance" granted in the first year only⁽¹⁾. For plant, machinery and vehicles, the annual allowances are mostly on the "reducing balance" method: i.e. a fixed percentage of the written-down cost outstanding. For ships, for certain types of plant and for industrial buildings, the allowances are on the "straight line" method: i.e. a fixed percentage of the original cost. The initial allowance has been a specified percentage of the cost of the asset, and the annual allowances have covered the whole of the remainder of the cost.

The rates of initial allowances have varied as shown below.

<i>Date of purchase of fixed asset</i>	Rate of initial allowance		Percentage
	<i>For plant and machinery and vehicles</i>	<i>For industrial buildings</i>	
6th April, 1944– 5th April, 1949	20 ⁽¹⁾	10 ⁽¹⁾	
6th April, 1949– 5th April, 1952	40	10	
6th April, 1952–14th April, 1953	— ⁽²⁾	—	
15th April, 1953– 5th April, 1954	20	10	

⁽¹⁾ For fixed assets purchased in 1944–45 and 1945–46, the initial allowance took effect as if purchase had occurred on 6th April, 1946 at the original price reduced by any depreciation allowances given in the meantime.

⁽²⁾ The suspension of initial allowances with effect from 6th April, 1952 did not apply to ships ordered before 11th April, 1951.

For plant and machinery, vehicles and new industrial buildings acquired on or after 6th April, 1954, the system of initial allowances has been superseded (except for motor cars, and second-hand plant, machinery and vehicles, for which the system of initial allowances continues) by a system of "investment allowances". The investment allowance, like the initial allowance, is granted only in the first year and equals a specified percentage of the cost of the asset (for 1954–55 and for 1955–56, 20 per cent. for plant and machinery and vehicles other than motor cars, and 10 per cent. for industrial and agricultural buildings). In the new system, however, the granting of the investment allowance is ignored in computing the series of annual allowances, so that the aggregate of the annual allowances equals the net cost of the asset; in the earlier system, the aggregate of the annual allowances equalled the net cost of the asset *less* the initial allowance granted.

Under the Finance Bill, 1956, investment allowances cease in respect of capital expenditure becoming due and payable after 17th February, 1956, except where a definite contract has already been placed and except for expenditure on the construction of ships and on scientific research assets. Such expenditure qualifies for the rates of initial allowances in force in 1953–54.

⁽¹⁾ Initial allowances were given on second-hand plant, machinery and vehicles, but not on second-hand buildings.

ANNEX 3

ILLUSTRATIVE TABLE SHOWING METHOD OF REVALUATION OF ACCOUNTING DATA OF STOCKS

(see page 324)

Commodity: materials used in manufacturing industry X

A. Revaluation of stock change during 1953 at 1953 current prices

	£000
1. Accounting value of stock (from census of production)	
a. end-1952	1,000
b. end-1953	1,600
c. Increase in value during 1953	600
2. Number of months' purchases in stock	Number
a. end-1952	3
b. end-1953	4
3. Board of Trade price index for materials used in manufacturing industry X (June, 1949 = 100)	
a. Average October–December, 1952	133 (assumed to be price underlying 1a)
b. December 1952	135
c. Average year 1953	140
d. Average September–December, 1953	150
e. December 1953	145 (assumed to be price underlying 1b)
f. Average year 1948	90
4. Stock revalued at average 1953 prices	£000
a. Stock at end 1952	1,053 ($1a \times \frac{3c}{3a}$)
b. Stock at end 1953	1,545 ($1b \times \frac{3c}{3e}$)
5. Value of physical increase during 1953 at 1953 average prices	492 (4b less 4a)
6. Stock appreciation in 1953	108 (1c less 5)

B. Revaluation of stock change during 1953 at 1948 prices

7. Stock revalued at 1948 prices	
a. Stock at end 1952	677 ($1a \times \frac{3f}{3a}$)
b. Stock at end 1953	993 ($1b \times \frac{3f}{3e}$)
8. Value of physical increase during 1953 at 1948 prices	316 (7b less 7a = $5 \times \frac{3f}{3c}$)

Chapter XII

Rent

1. GENERAL DESCRIPTION

Some description has been given of the treatment of rent, considered both as income derived from the ownership of land and buildings and as expenditure by the occupier, in the chapters dealing with the several sectors of the economy. The present chapter provides a somewhat more detailed discussion of the problems involved and of the treatment adopted.

Rent is a category of factor income with a special and rather arbitrary definition. It denotes the income derived from the ownership of land and buildings⁽¹⁾, reckoned after deduction of actual expenditure by the owners on current repairs, maintenance and insurance. Where the owner of the property is also the user, an income is "imputed" to him that in principle represents the amount he would receive if he let the accommodation unfurnished under an agreement whereby the tenant undertook responsibility for rates, repairs and insurance⁽²⁾. In what follows, "rental income" means the net rent in the sense of gross receipts (or gross rent) of the owner *less* expenditure on repairs etc. Rent, like trading income, is reckoned before any allowance for depreciation.

The justification for separate specification of income derived from rent—although there is much tradition behind it—is practical rather than theoretical. The figures given, which relate principally to buildings, certainly do not measure the earnings of the factor of production "land" as conceived in classical economic theory. Rent might better be regarded as a form of trading profit—the surplus on operating account derived from the business of hiring real estate—than as the earnings of a specific and distinguishable factor of production. But both the concept of rental income and the available statistics have special features which make it convenient to give separate treatment to rental income. In the first place, a large proportion of land and buildings is owned by the occupiers; hence a correspondingly large proportion of income from rent can be measured only by imputation, being estimated by reference to the market rents actually received for similar assets. This imputed income is, of course, regarded as "real" enough to suffer income tax (under Schedule A). Secondly, much of the statistical material for estimating both actual and imputed rental income is unsatisfactory; in particular, there are considerable difficulties in analysing the total income from rent between sectors of the economy. For all these reasons it is felt better to state rental income, so far as possible, as a separate item rather than to attempt to add an unsatisfactory allowance for it to the other forms of profit income.

(1) In a very few cases, income derived from the hire of machinery is also treated as rent.

(2) In fact, imputed rental income from land and buildings in the occupation of trading concerns is not distinguished from trading profits (see below).

Some other general features of the definition of the estimate of rental income should be noted :

a. One important form of imputed rent is included in trading profits and not under the heading "rent". This is the imputed income of all trading concerns other than farms (companies, unincorporated businesses, public corporations and trading branches of public authorities) owning the land and buildings which they occupy. The reason for this exception is that the only information available from which the amount of rent to be imputed could be estimated is the net annual values assessed to income tax under Schedule A (income from the ownership of land and buildings). This net annual value is determined by reference to the rent at which the property is "worth to be let" (the landlord paying for repairs), less a statutory allowance for repairs. The last valuation for this purpose, however, was made before the last war, and would afford an extremely unsatisfactory basis for determining current imputed income. However, the total trading profits of a concern may reasonably be regarded as including the profit derived from the ownership of its land and business premises⁽¹⁾; any attempt to determine how much of the profit is derived from the property, as distinct from the profit earned by the other factors of production employed, would be unrealistic and would not, of course, affect the contribution of the concern to total national income.

b. The imputed rental income from owner-occupied farm land and buildings is, by contrast, treated as rental income.

c. The incomes of concerns owning and letting property as a business (the "real estate industry") are included in rent.

d. Where rents paid by tenants of houses are subsidised by public authorities, the rental income is calculated as the full economic rent; the subsidy is regarded as contributing to the rental income derived from the property.

e. Rental income is taken to exclude income from the provision of ancillary services (such as the use of furniture, hot water or heating).

f. The current costs of repairs and maintenance, etc., which are deducted from gross rent received (actual but not imputed) in measuring rental income, represent throughout estimates of the *actual* expenditure incurred. An alternative, but theoretically preferable, treatment is to measure the current costs of property ownership by the amount of repair work, etc., believed to be necessary to maintain the property in running order. If actual expenditure falls short of this, then the net rental income should not, on this view, be regarded as increased; instead, a cost, equal to the deficiency of maintenance expenditure, should be imputed, to represent the unrecorded "wastage" of assets; this cost would take the form of an amount transferred to capital account. However, in the absence of any data from which such deficiencies of maintenance expenditure may be computed at all comprehensively, no allowance is made for them. The same problem arises in the estimation of capital formation and is discussed on page 282.

⁽¹⁾ For tax assessment of concerns owning the property they occupy, the net Schedule A value is deducted from total trading profit in order to arrive at the profit liable under Schedule D. The total trading profit, before this deduction, is used for estimating trading profits in the national income calculations (see also page 157).

2. METHODS OF MEASUREMENT OF RENT

Until 1951, all forms of rent were measured simply by the net annual values assessed for income tax under Schedule A, plus "excess rents" assessed under Schedule D (see page 162⁽¹⁾). Since then, estimates more closely related to current values have been substituted at a number of points.

Separate methods are used for estimating rental income in respect of each of the following groups of property:

a. Privately owned land and buildings used by persons as consumers (i.e. excluding trading premises). This group includes all dwelling-houses, whether rented or owner-occupied, except those owned by public authorities. It includes, however, some owned by public corporations.

b. Land and buildings owned by the Central Government.

c. Land and buildings owned by local authorities, including dwelling-houses.

d. Farm land and buildings (including those in owner-occupation).

e. Land and buildings (other than houses and farms) owned privately or by public corporations and *rented* to trading concerns (companies, unincorporated enterprises, public corporations, and public authority trading branches), or rented or requisitioned by public authorities.

For the reasons given above, land and buildings (other than farms) *owned and occupied* by a trading concern, public or private, are ignored in the calculation of rental income.

a. *Privately owned land and buildings used by persons*

This group covers privately-owned land, houses and other buildings used by households and individuals, as consumers, or by charities and other non-profit-making bodies included in the personal sector. "Privately-owned" property is taken to include all property not owned by public authorities—i.e. it includes property owned by public corporations as well as by persons or companies. Both rented and owner-occupied dwellings and other properties are included, as are houses requisitioned by the government. The main component, of course, is privately-owned dwelling-houses. The rental income is that accruing both to private landlords and to owner-occupiers.

The measurement of rental income for this group rests primarily on the estimates of consumers' expenditure on housing. The methods used are described on page 113. Consumers' expenditure is divided between (a) rents, rates and water charges and (b) expenditure by occupiers, whether tenants or owner-occupiers, on repairs, maintenance and insurance. The main basis for the estimates is recent sample surveys of actual expenditure by occupiers, including owner-occupiers, of all dwellings, whether privately or publicly owned. The expenditure imputed to owner-occupiers in respect of rent (excluding repairs) is taken to be the net Schedule A value adjusted to current prices by the rent constituent of retail price indices.

The rental income accruing to private landlords and owner-occupiers is equal to total consumers' expenditure on rent, rates and water charges, as stated in the Blue Book (Table 21), *less* (a) all rates and water charges,

⁽¹⁾ Also, up to and including the national income white paper of 1953, (Cmd. 8803), the imputed rental income from trading property was separated from trading profits and shown under "rent".

(b) actual rents paid to public authorities (the main component being the rents paid for local authority houses) and (c) the cost to private landlords (other than owner-occupiers) of repairs, maintenance and insurance.

b. Central Government property

This group covers (a) some (but not all) property owned and used by the government other than in connection with trading activities (namely, office buildings); (b) property owned and let by the government for trading purposes (mainly factories in Development Areas, buildings and machinery leased to contractors under capital assistance schemes, and Crown Lands); (c) temporary houses and temporary schools built and owned by the Central Government after the last war, but made available for use by local authorities and administered by them; and (d) married quarters for the Forces at home.

For office buildings owned and used by the Central Government, a notional rent is imputed on the basis of the area in use and the rental value per square foot of office accommodation of similar types and location. No rent is imputed for other buildings owned and used by the Central Government. The chief buildings so excluded are hospitals operated under the National Health Service and establishments used by the Ministry of Supply and the United Kingdom Atomic Energy Authority for research and development.

For property owned by the government and let for trading purposes, an estimate of the rental income (after deducting the cost of repairs, etc.) is obtained from details of receipts and expenditure in published accounts. The figures for temporary houses and temporary schools and for the Forces' married quarters are imputed rental incomes, based on the annuities paid by the responsible departments (as described on page 197).

c. Local authority property

This covers local authority houses, and property owned and used by local authorities other than in connection with trading activities (such as offices, schools, etc.). The rental value is measured by the loan charges on the capital cost (see page 236). This calculation is intended to provide an estimate of the "economic rent" of the properties. In the case of houses, the amount by which actual rents received from tenants *plus* subsidies received from the Central Government *less* current expenditure on repairs etc. falls short of the "economic rent" is regarded as a subsidy to the housing service—a form of trading service—from the non-trading accounts of the local authorities. It is, of course, true that a measure of rental income based on loan charges is a measure in terms of historical cost; it does not (like the estimates of most other forms of rent) measure current market values. Since not much more than half of the properties concerned were built in the post-war period, the historical cost basis must in fact lead to some understatement of income at current prices.

d. Farm lands and buildings

For this group, which includes both rented and owner-occupied properties, rental income is estimated from the sources used for calculating farm incomes generally (see page 94). The rental income represents an average rent per acre (computed by regular surveys) multiplied by acreage, *less* an estimated deduction for current repairs and maintenance.

e. *Land and buildings rented to trading concerns or public authorities*

The main item is property (other than farms) owned by persons, companies and public corporations and rented for use by industry and commerce (both private and public enterprises); it excludes owner-occupied properties.

No direct information is available. An estimate is made by the Inland Revenue, based on Schedule A assessments. Additions are made for assessments under Schedule D in respect of rents in excess of the Schedule A value of the property, and a deduction for maintenance claims in excess of the statutory allowance⁽¹⁾. Hence, although Schedule A assessments are mainly related to pre-war values, the adjustments result in a rough measure of net rents at current prices. The reliability of the estimates, in respect of both absolute level and year to year movement, is, however, poor.

3. THE COMPOSITION OF RENTAL INCOME

The following table shows how the total of rental income was divided in 1954 between the different groups of property separately discussed above.

Composition of rental income, 1954

	£ million
a. Privately owned land and buildings used by persons as consumers	403
b. Central Government land and buildings:	
Imputed rent for owner-occupied office property	4
Property let for trading purposes	11
Temporary houses	24
Temporary schools	2
Married quarters for the Forces	1
c. Local authority land and buildings:	
Houses	116
Imputed rent for owner-occupied non-trading property	62
d. Farm land and buildings	32
e. Land and buildings, owned privately or by public corporations, rented to trading concerns, or public authorities	89
Total	744

A very rough allocation of rental income accruing to each sector of the economy is shown in the next table; the figure for the personal sector is obtained as a residue. These figures are not shown in full in the Blue Book but are used to separate receipts of rental income from other kinds of property income in the table displaying the social accounts (Blue Book, 1955, Table 9). Many of the figures are not sound enough to justify year by year estimates, but may be useful as indications of the general pattern of rental incomes⁽²⁾.

⁽¹⁾ A note on "excess rents" and "excess maintenance claims" will be found in Appendix III (page 351).

⁽²⁾ Annual figures for receipts of rental income by Central Government and local authorities are shown in Tables 37 and 40, respectively.

Allocation of rental income, by sector, 1954

£ million

Groups of property	Receipt by					
	Persons	Companies	Public corporations	Central Government	Local authorities	Total
a. Privately owned ⁽¹⁾ land and buildings used by persons .	384	15	4	—	—	403
b. Central Government property .	—	—	—	42	—	42
c. Local authority property .	—	—	—	—	178	178
d. Farm land and buildings .	26	5	1	—	—	32
e. Land and buildings ⁽¹⁾ rented to trading concerns or public authorities	18	70	1	—	—	89
Total	428	90	6	42	178	744

⁽¹⁾ Owned privately or by public corporations.

Rental income can be analysed also by industry of origin. In earlier publications, an attempt was made to analyse the rental income according to the industry using the property, irrespective of type or ownership. This was abandoned in Blue Book, 1953, since in practice a large amount had to be allocated by purely arbitrary methods. In Table 14 of Blue Book, 1955, showing the gross national product by industry of origin, rent is treated as originating in three "industries" only:

- (i) Agriculture ;
- (ii) The real estate industry, a part of "insurance, banking and finance (including real estate)";
- (iii) An imaginary "industry" for the ownership of dwelling-houses.

It will be remembered that the imputed income derived from owner-occupied trading property (except farms) is not treated as rental income, but is included in the gross trading income of the industries concerned.

Rental income, by industry of origin, 1954

£ million

Agriculture:	
Farm land and buildings (group d)	32
Real estate industry:	
Land and buildings rented to trading concerns, etc. (group e)	89
Central Government property, other than houses (part of group b) . .	17
Local authority property, other than houses (part of group c)	62
Ownership of dwelling-houses:	
Privately owned land and buildings used by persons (group a)	403
Houses owned by Central Government (part of group b) :	25
Houses owned by local authorities (part of group c)	116
Total	744

Chapter XIII

International Transactions

1. GENERAL DESCRIPTION

It is not proposed to describe here in any detail the methods used for compiling the estimates of United Kingdom transactions with the rest of the world. Reference should be made to the notes and definitions in the half-yearly white papers on the United Kingdom balance of payments⁽¹⁾. The concepts and data used in these white papers are adopted in the national income statistics, except for some minor modifications required to secure consistency with the concepts and data used for recording domestic transactions.

THE DEFINITION OF "RESIDENTS"

As was said on page 15, the national income, product and expenditure of the "United Kingdom" are the income, product and expenditure of those persons, enterprises and institutions which are regarded as United Kingdom residents; they are not necessarily the same as the income and product originating within the geographical boundaries of the United Kingdom or the expenditure occurring there. Hence international transactions must be defined as those between residents of the United Kingdom and non-residents. Some transactions occurring wholly outside the United Kingdom are part of the United Kingdom national income and product (e.g. the earnings of British seamen carrying goods between South America and Asia); some occurring wholly within the United Kingdom are treated as international transactions (e.g. retail sales to foreign tourists).

The definition of persons resident in the United Kingdom presents little difficulty. Broadly speaking, United Kingdom residents are (i) persons who maintain a place of abode in the United Kingdom and visit it during the year, or who are in the United Kingdom for six months during the year, or who visit the United Kingdom regularly for substantial periods. Persons who fulfil any of these conditions are subject to United Kingdom income tax in respect of the whole of their income, wherever originating; the statistics of incomes of persons resident in the United Kingdom can thus be derived from United Kingdom tax data; (ii) United Kingdom government officials stationed abroad (other than locally recruited staff) and members of the Forces stationed abroad. Officials of foreign governments and members of the armed forces of foreign countries, stationed in the United Kingdom, and British nationals working or living abroad who do not fulfil any of the conditions specified above, are treated as non-residents.

Treatment of British companies operating abroad

To define and apply criteria of residence for trading enterprises is less straightforward. For income tax purposes, a company, wherever registered, is treated as resident in the United Kingdom if the central management and

⁽¹⁾ The latest is Cmd. 9585 (October, 1955) which gives figures for the years 1946 to 1953 and for the three half-years ending June 1955.

control of the business is exercised in the United Kingdom; the whole of its trading profits, wherever originating, is then liable to United Kingdom tax. Thus some companies are subject to tax as United Kingdom residents although most of their assets are abroad: for instance many mining companies and rubber plantations.

The criteria of residence used for tax purposes are accepted for the estimates of national income and product. Enterprises, whether independent or subsidiary companies, which are United Kingdom residents for tax purposes, but whose trading operations take place abroad, are regarded as consisting of two parts: (i) an overseas "branch", earning a trading profit on overseas operations, the whole of which accrues to (ii) a "head office" in the United Kingdom⁽¹⁾. The overseas "branch" does not contribute to the *domestic* product of the United Kingdom; but the whole of its trading profit is regarded as accruing to the United Kingdom (the "head office") and is therefore part of the national income, being treated as income received from abroad.

The significance of this treatment may be seen by examining two possible alternative methods:

a. An enterprise, legally a United Kingdom resident, but operating abroad (e.g. a rubber company in Malaya), might be treated in much the same way as an enterprise operating wholly in the United Kingdom. All of its purchases from non-residents (the wages paid to Malaysians, the stores bought in Malaya, etc.) would then be treated as "United Kingdom" imports of goods and services; all its trading receipts from non-residents (e.g. its sales of rubber to the United States) would be treated as "United Kingdom" exports of goods and services. This treatment would not affect the size of the gross national product, but (e.g. in Table 1 of Blue Book, 1955) the item "trading profits of companies" and the total gross *domestic* product would be increased by the trading profits of this enterprise, while the item "net income from abroad" would be correspondingly diminished. The drawback to this treatment is that it enlarges the boundary of United Kingdom production to such an extent that analysis of economic activity in the United Kingdom, considered as a geographical and social unit, would be rendered difficult.

b. Another alternative would be to include in the national income of the United Kingdom only the interest and dividends received from British enterprises operating overseas; all undistributed profits would thus be regarded as accruing to non-residents (in the same way as all the undistributed profits of, for example, a United States company operating in the United States in which United Kingdom residents may hold a few shares). This would imply that any undistributed profits re-invested by such an enterprise, although perhaps wholly owned by United Kingdom residents, would add nothing to the national income of the United Kingdom or to investment abroad.

There are, of course, less extreme solutions. For example, only a proportion of the undistributed profits accruing to companies operating abroad might be included in the United Kingdom national income, the proportion

⁽¹⁾ The administrative expenses of the head office are regarded as part of United Kingdom domestic product.

being determined by the share of United Kingdom residents in the capital of the company (which would be extremely difficult to determine). The criteria adopted are admittedly arbitrary, like the solutions to many other problems of determining the "boundaries" of national product.

The method adopted is difficult to apply in practice (as would be any of the alternatives). The profits of companies cannot always be divided between those earned from domestic operations and those earned abroad. Hence for determining the gross domestic product, as is pointed out on page 157, companies are divided between those operating *chiefly* in the United Kingdom and those operating *chiefly* abroad (each subsidiary in a group of companies being separately allocated).

It should be noted that enterprises engaged in operating British ships and aircraft are treated as operating "in the United Kingdom". Their purchases of stores and fuel abroad are treated as United Kingdom imports of goods and services, although not physically entering the United Kingdom nor recorded in the *Trade and Navigation Accounts*; their trading receipts from foreigners are treated as United Kingdom exports of services; the factor incomes earned by their crews and the gross trading profits of the companies are regarded as part of domestic product.

Treatment of foreign companies operating in the United Kingdom

The profits arising from activities within the United Kingdom of foreign companies are treated as contributing to the domestic product, while, in general, only that part of their profits which is remitted abroad is treated as property income paid abroad⁽¹⁾. This treatment is admittedly inconsistent with that adopted for British companies operating abroad, whose total profit, whether remitted or not, is so far as possible treated as United Kingdom income. But sufficient information is not available to secure complete consistency.

National income and balance of payments criteria of residence

The definitions of international transactions adopted in the balance of payments white papers accord in principle with the concepts of domestic and international transactions used for national income purposes. It should, however, be realised that the different purposes for which the two sets of statistics are required lead to the use of different sources of data, especially in the analysis of profits earned abroad. In both cases, there is an element of arbitrary estimation, which may lead to some inconsistency between the statistics of trading profits earned from operations in the United Kingdom (as determined, by the method described above, from an analysis of tax assessments) and the figures of income from abroad (as estimated for the White Papers).

A minor inconsistency arises, also, from the treatment of the Channel Islands. Transactions with the Channel Islands are excluded from the White Papers as though these territories were part of the United Kingdom. In the national income statistics, however, no specific allowance is made for income or expenditure in the Channel Islands. This leads to a small and fairly regular discrepancy between the two sets of figures for which no adjustment is made.

⁽¹⁾ See page 149.

2. THE BLUE BOOK TABLE

Only one comprehensive table showing international transactions appears in the Blue Book (Table 7). This table can be regarded as a combined current and capital account of the "rest of the world sector". (To close the system of sector accounts, non-residents, in respect of their transactions with the United Kingdom, may be regarded formally as a "sector" of the United Kingdom economy). The table is a rearrangement, in summary form, of Table 1 ("United Kingdom general balance of payments") in the balance of payments white papers. The current transactions are regrouped so as to separate the three categories of transactions distinguished throughout the Blue Book: transactions in goods and services, property income payments and transfer payments; in some cases, this regrouping requires some sub-division of the items in the White Papers.

The Blue Book table is set out as follows:

Transactions with the rest of the world, 1954

£ million

United Kingdom debits		United Kingdom credits	
Imports of merchandise into the United Kingdom	3,007	Exports and re-exports of merchandise from the United Kingdom	2,815
Other imports of goods and services	595	Other exports of goods and services	721
Property income paid abroad	412	Property income received from abroad	616
Total of imports and income paid abroad	4,014	Total of exports and income received from abroad	4,152
Current transfers:		Current transfers from overseas governments	50
To persons (net)	17	Other Central Government receipts	34
To overseas governments and international organisations	45		
Investment and financing:			
Net investment abroad	160		
less Capital grants from overseas governments (net)	—		
Total investment and financing ⁽¹⁾	160		
Total	4,236	Total	4,236

Source: Blue Book, 1955, Table 7

(1) Equal to balance of current transactions (including Defence Aid) as defined in the balance of payments white papers.

Imports and exports of merchandise

These are purchases and sales of merchandise which cross the United Kingdom boundary, valued *f.o.b.*, and are identical with items 1 and 8 in the White Papers. It is explained in the White Papers that the figures of imports and exports represent an attempt to record transactions in goods

Other imports and exports of goods and services

This comprises current purchases and sales overseas by United Kingdom residents of goods and services, other than merchandise physically delivered in, or shipped from, the United Kingdom. The main transactions included here relate to various services but the category also includes some purchases and sales of goods, e.g. purchases for local use by the Forces overseas, or purchases by British tourists abroad, which never cross the United Kingdom border. A large volume of transactions is involved; in some cases purchases are offset against sales of a similar service and only a net figure is used both in the Blue Books and in the balance of payments white papers.

The items included (by reference to the items in the balance of payments white papers) are:—

a. *Shipping* (items 2 and 9 of White Papers): The credit item represents earnings of United Kingdom dry-cargo ships in trade all over the world *plus* foreign disbursements (current expenses for ships' stores, fuel, port charges etc.); the debit item represents payments for services of foreign ships *plus* United Kingdom disbursements abroad. Receipts and payments for passenger fares are included so far as possible. A special source used here is the inquiries conducted by the General Council of British Shipping in respect of shipping transactions in 1947 and 1952.

b. *Travel* (items 4 and 11 of White Papers): both business and tourist travel are included. This item is linked with the estimates of expenditure by foreign tourists etc. in the United Kingdom, and of consumers' expenditure abroad. Both items are shown in the analysis of consumers' expenditure (Table 21 of Blue Book 1955; see also page 138).

c. *Government current expenditure on goods and services* (the bulk of items 6 (a) and 6 (d) of White Papers): this item includes military expenditure abroad on goods and services but not grants, *less* costs of local requirements met by the Federal German Government and *less* other local receipts; and "administrative, diplomatic etc." expenditure, other than pensions paid to persons overseas (included in the Blue Book table as current transfers to persons) and excluding also other grants, such as contributions to international organisations (included in the Blue Book table as current transfers). The item in the Blue Book table includes personal expenditure overseas by United Kingdom Forces and government employees which also appears in the Blue Book as consumers' expenditure (see page 138).

d. *Other receipts from the sale of goods and services*: this item includes (i) sales of goods and services included in item 12b of the White Papers (purchases by United States and Canadian Forces from the United Kingdom Government, and "offshore sales" of military equipment to the United States Government for supply to the United Kingdom Forces⁽¹⁾); and (ii) the balance of item 13 (other net credits) in the White Papers after certain elements of property income have been taken out.

Property income payments and receipts

These items represent rent, interest, dividends and other profit incomes paid to, or received from, overseas. The figures in the Blue Book include items 3 and 10 in the White Papers together with elements of property income

⁽¹⁾ Offshore sales for supply to other countries are included in item 8 (exports and re-exports) in the White Papers.

from item 13. Among these elements of property income is the net credit on oil transactions. The figures of property income in the White Papers are reckoned after deduction of taxes. They are treated differently in the Blue Book in that estimates of taxes paid to foreign governments, and of taxes paid to the United Kingdom Government are added respectively to the figures of income received and income paid. These tax payments are entered again on the opposite side of the account so that the balance between payments and receipts shown in the White Papers is preserved. The payment of tax to a foreign government on income accruing to United Kingdom residents is thus entered as a payment of property income by the United Kingdom, and vice versa. This treatment has no particular advantage for the presentation of international transactions as such. But it is important for consistency with the appropriation account of companies operating in the United Kingdom.

The property income received from abroad consists of the following elements:

a. The total profits, whether transferred to the United Kingdom or not, arising from the overseas operations of United Kingdom resident companies⁽¹⁾. In a number of cases, however, only profits transferred to the United Kingdom can be estimated for the balance of payments statistics. This element should in principle correspond to the "trading profits of British companies operating abroad" included in the appropriation account of companies (see Table 29 of Blue Book, 1955 and page 161 above). But complete consistency cannot at present be attained. In the appropriation account of companies, it is essential that profits earned abroad should be estimated consistently with those earned at home, without overlapping or duplication; both estimates are therefore drawn from a single source, namely tax assessments, but the division between domestic and overseas profits is necessarily somewhat arbitrary. In estimating the balance of payments, on the other hand, the principal object is to secure an analysis specifically of overseas profits, not only in total but also by area; for this purpose, it is necessary to use a variety of sources including exchange control data, estimates of income payments in the balance of payments statistics of other countries, company accounts etc.⁽²⁾. To reconcile the discrepancy between the statistics of overseas profits drawn from tax assessments and those in the balance of payments estimates, a "balance of payments adjustment" is introduced in the appropriation account of companies (see also page 161).

b. Interest received by the United Kingdom Government on loans to overseas governments.

c. Any other interest and dividends received by United Kingdom residents, chiefly interest and dividends on overseas government securities, and on investments in non-resident enterprises.

The property income paid abroad consists of:

a. Profits transferred by foreign companies operating in the United Kingdom, together with a small amount of profits retained for reinvestment.

⁽¹⁾ And of public corporations operating overseas (Overseas Food Corporation, Colonial Development Corporation and Cable and Wireless Ltd.).

⁽²⁾ Reference may be made to the statistics of interest and dividends on United Kingdom overseas investments in "United Kingdom Overseas Investment, 1953" (Bank of England, 1955).

b. Interest paid by the United Kingdom Government on loans from overseas governments (the major item being payments on loans from the United States and Canada).

c. Other interest and dividends paid to non-residents by the United Kingdom Government or by resident enterprises.

Current transfers to abroad

The first element in this category is *grants to persons* and consists of (a) transfer of migrants' funds, legacies and private gifts, shown (as a net figure) as item 5 in the balance of payments white papers and (b) pensions paid abroad by the British Government, included in item 6d of the White Papers. The latter item reappears in Central Government revenue expenditure as "national insurance and war pensions paid to non-residents" (Table 37 of Blue Book, 1955).

The second element is current grants by the United Kingdom Government to overseas governments and international organisations, the major item being grants to the Colonies (see page 249). The figures are those shown in the white papers under items 6b (Colonial grants) and 6c (Relief and other grants), together with some grants included in 6a (military expenditure) and 6d (administrative etc. expenditure, which includes contributions to international organisations).

Current transfers from overseas governments

These are (a) receipts from the United States, other than free transfers of military equipment, under the Mutual Defence Assistance Agreement and Mutual Security Acts, together with similar receipts from Canada. The figure is that shown in the White Papers on the balance of payments, item 16; (b) grants deemed to have been received under the Benton and Moody amendments to the Mutual Security Act of 1951 and the Economic Co-operation Act of 1948. This item appears in the White Papers in item 12a. The sums received are recorded after deducting the United States share of the sterling counterpart⁽¹⁾.

Other Central Government receipts

This is a somewhat heterogeneous group of miscellaneous government receipts. It consists of item 12 b in the White Papers *less* certain components which are sales of goods and services. A large part of this item, especially in the earlier years, consists of receipts in settlement of debts and claims arising from the last war. In addition, receipts under the "Katz-Gaitskell" agreement (in item 12a in the White Papers), which provided that part of the United Kingdom gold and dollar payments to the European Payments Union should be refunded by the United States Government, are included here. In the Central Government accounts (see page 206) the whole item is treated as a transfer receipt on capital account (although it undoubtedly includes some current items).

⁽¹⁾ Item 12a in the White Papers also includes receipts from the "Katz-Gaitskell" agreement which is included in the Blue Book under "Other Central Government receipts" (see page 206). For fuller details of grants from the U.S.A. and Canada see the notes in the balance of payments white papers (e.g. Cmd. 9585, pages 39-42).

Investment and financing: net investment abroad

This represents the net change in all overseas assets of United Kingdom residents, i.e. overseas investment in real assets, *plus* increases in the gold and dollar reserves and in holdings of other foreign currencies *less* increases in overseas holdings of sterling *plus* increases in net lending to overseas residents. The same figure appears in the combined capital account (Blue Book, 1955, Tables 6 and 45) as net investment abroad. The figure is the sum of groups III (investment, borrowing, etc.), IV (change in sterling liabilities etc.) and V (changes in gold and dollar reserves) of the "Investment and Financing Account" in the balance of payments white papers.

Investment and financing: capital grants from overseas governments (net)

Grants (but not loans) received under the European Recovery Programme are entered here, together with gifts from the Australian and New Zealand governments in 1947 and 1949. These are equal to "Grants under the European Recovery Programme and gifts from abroad" shown as receipts in the capital account of Central Government—Blue Book 1955, Table 38; (see page 206). These receipts are offset by repayments to the United States of her share of the sterling counterpart under the European Recovery Programme, grants to European countries under the Intra-European Payments Agreement and the European Payments Union, and revaluation payments made by the United Kingdom after the devaluation of sterling. These negative items are shown separately as payments in the capital account of Central Government (Table 38; see page 211). The net result of the transactions is equal to Group I (Grants etc. to United Kingdom) of the "Investment and Financing Account" in the balance of payments white papers. Since the cessation of grants to the United Kingdom under the European Recovery Programme in 1951, there have been no entries against this item.

Total investment and financing

Net investment abroad *less* capital grants from overseas governments make up the "balance of current transactions including Defence Aid net" as recorded in the White Papers.

3. INTERNATIONAL TRANSACTIONS IN GOODS AND SERVICES AT CONSTANT PRICES

Estimates are made of the value of imports and exports of goods and services at constant (1948) prices and are given in Table 12 of Blue Book, 1955. No attempt is made to estimate the value at 1948 prices of property income or other transfers (see page 37). Estimates at constant prices are thus confined to the components of the gross domestic product.

Imports and exports of merchandise

Indices of the volume and average value of imports and exports of merchandise, based on the *Trade and Navigation Accounts*, are regularly compiled and published by the Board of Trade. The *Trade and Navigation Accounts* differ in respect of both coverage and timing from the balance of payments statistics and, for reasons mentioned above, it is the latter which are used in the Blue Book. A further complication is that the Board of Trade volume and value indices for imports are based on *c.i.f.* values, whereas

for national income purposes, insurance and freight must be dealt with separately; only the part which is undertaken by foreign firms belongs to imports. Thus the Board of Trade indices are not in a form in which they can be directly incorporated into the national income estimates, and the adjustments that are necessary reduce the reliability of the estimates, particularly those of imports.

For certain years detailed figures are available of the ratio of *f.o.b.* to *c.i.f.* prices of imports. The volume indices are accordingly reweighted, and their coverage extended, to provide, as closely as possible, estimates of the value of imports of merchandise in each year at 1948 *f.o.b.* prices, having the same coverage as the balance of payments figures; similar estimates are made of the value of imports of merchandise at current *f.o.b.* prices. The price index implied in the estimates at current and constant *f.o.b.* prices is applied to the total value of imports of merchandise given in the balance of payments white papers.

The treatment of exports is more straightforward, since the *Trade and Navigation Accounts* are used in building up the figures in the balance of payments white papers. For all items included in the *Trade and Navigation Accounts*, the estimates of the value of exports at 1948 prices are based on the Board of Trade volume indices, which are brought into alignment with the timing of the balance of payments figures. The estimated values of exports that are not included in the *Trade and Navigation Accounts* are deflated by approximate price indices of the items in question.

Other imports and exports

Imports and exports of services, of which the values at current prices are obtainable from the White Papers, cannot for the most part be accurately estimated at constant prices. From the data that are obtainable, only rough price indices can be constructed. The services of shipping, for example, are deflated by a weighted average of tramp freights and liner rates. Expenditure by tourists abroad is deflated by an index based on exchange rates and retail price indices for various countries (see page 138). Central Government overseas expenditure is deflated by very rough price indices of the kinds of goods and services principally purchased.

Estimates at constant market prices

The estimates of imports and exports of goods and services are given in Table 12 of Blue Book, 1955 both at constant factor cost and at constant market prices. The estimates at constant factor cost represent the conversion into constant prices of the import and export figures at current prices, given in Table 7. But the estimates of imports of merchandise at constant market prices are based on 1948 *f.o.b.* prices *plus* the taxes on expenditure—mainly Customs and Excise duties—falling directly on imports at the rates current in 1948. The view taken is that the market prices of imports, as of other goods, must include any customs and excise duties which they attract, since it is the price including duty which the purchaser has to pay, and which therefore affects substitution at the margin between different commodities, whether home-produced or imported⁽¹⁾. In cases where the duties are

(1) A fuller discussion of the problem is contained in "National Income at Factor Cost or Market Prices?" by J. L. Nicholson, *Economic Journal*, Vol. LXV, June 1955, p. 216.

normally paid when merchandise is withdrawn from bond (e.g. tobacco), the estimates of imports at constant market prices include the duties (at 1948 rates) on the quantities withdrawn from bond during the year, not on the amounts actually imported during the year.

4. RELIABILITY

In view of the variety of sources from which the figures are drawn, the reliability of the estimates of the different forms of international transactions necessarily varies. The transactions shown in the balance of payments white papers must of course be brought into line with the firm figures of changes in reserves. There is therefore a "balancing item" (contained in item 28 "Other capital transactions (net)") due largely to the inadequacy of data on long and short term capital movements (including variations in commercial credit), but reflecting in part any errors in the current account.

The reliability of most of the items shown, and of the year to year changes in them, can be described as fair. Although the major items are derived from precise figures (such as the *Trade and Navigation Accounts*, exchange control records or Central Government accounts), there is always some element of uncertainty (as in most other sections of the national income accounts) about the adjustment of these figures to the conceptual framework. The records for some elements of "other goods and services" and of property income are, however, inferior. It should also be realised that some of the information for the most recent year shown is incomplete.

Appendix I

The Allocation of Property Income

It was pointed out on page 59 that there is no way of determining directly the total amount of rent, dividends and interest received by the personal sector. It is therefore derived as a residue in the following way (all figures being shown before deduction of United Kingdom tax):

	1954 £ million	Table in Blue Book, 1955
A. Total payments by all sectors		
Rent	744	Table 1
Interest and dividend payments ⁽¹⁾ :		
by companies	888	Table 29
by public corporations	147	Table 33
by Central Government	623	Table 37
by local authorities	127	Table 40
Taxes and remittances paid abroad by companies	186	Table 29
Income received from abroad (i.e. payments by "rest of world" sector)	616	Table 7
Total payments	3,331	
B. Receipts by all sectors except persons		
Companies ⁽¹⁾ :		
income earned abroad	279	Table 29
balance of payments adjustment	59	Table 29
non-trading income	466	Table 29
Public corporations:		
non-trading income	36	Table 32
income earned abroad	2	Table 32
Central Government ⁽¹⁾ :		
rental income	42	Table 37
interest and dividends, etc.	173	Table 37
Local authorities:		
rental income	178	Table 40
interest, etc.	6	Table 40
Income paid abroad (i.e. receipts by "rest of world" sector)	412	Table 7
Total receipts by all sectors except persons	1,653	
C. Net receipts by personal sector (A less B)	1,678	Table 2

⁽¹⁾ Excluding in each case estimated payments to, or receipts from, other units within the same sector (i.e. excluding national debt interest paid to other Central Government departments, company dividends paid to other companies, etc.).

Appendix II

The Census of Production

The estimates of consumers' expenditure, fixed capital formation, stocks and work in progress and wages and salaries rest heavily on the statistics provided by the censuses of production for manufacturing and some other industries. Certain characteristics of the census statistics, which affect all uses made of them in the Blue Book, are for convenience brought together here.

For 1948 and each subsequent year a census of production has been taken covering mining and quarrying, nearly all manufacturing industries, building and contracting (except in 1950), gas, water and electricity. Separate censuses, but on similar lines, are taken in Great Britain and in Northern Ireland (except in 1948, when there was no census in Northern Ireland). In recent years sampling procedure has been extensively used, interspersed with full censuses. Thus the censuses for 1952, 1953 and 1955 were confined to a sample of establishments, the samples including, however, all establishments over a certain size.

Estimates for the last year shown in the Blue Book are necessarily based on a small proportion of census returns and may consequently require significant revision (firms are allowed to make returns in respect of their own accounting years as indicated below, so that the returns for 1954 may relate to accounting years ending as late as 5th April, 1955). Thus the figures for 1954 shown in Blue Book, 1955, for most of census industry, are derived from a tabulation by the census office of all returns received by May, 1955—not, of course, an unbiased selection. The census returns for the last year but one (e.g. the returns for 1953 in the Blue Book, 1955) are also based on incomplete tabulations and are subject to subsequent revision.⁽¹⁾

The figures derived from the census returns require certain adjustments to conform with the definitions used for national income statistics.

a. *Small establishments*: establishments employing ten or fewer persons are required to state only the total numbers employed. Additions based on employment must be made to the census data for these establishments.

b. *Trades not regularly covered by the census*: estimates must be made for the small number of manufacturing trades not normally covered by the census; these are garages and filling stations and boot and shoe and watch and clock repairers working directly for the general public. The census for 1950 did not cover building and contracting, nor those establishments in the so-called "overlap trades" which made returns in the Census of Distribution and Other Services, 1950. Additional estimates are made for these trades.

c. *Northern Ireland*: the census for 1948 related only to Great Britain so that an adjustment was necessary to extend the figures to the whole of the United Kingdom. This was done by using the ratio of employment in the United Kingdom to employment in Great Britain in June, 1948.

The figures derived from the census, say for 1954, do not strictly relate to the calendar year 1954; since firms are allowed to make returns for their own accounting years, the resulting aggregates are the sum of returns relating to 12 month periods ending between 5th April, 1954 and 5th April, 1955. The spread of accounting periods is, however, such that the figures can be taken as relating on average to the calendar year. Thus an analysis of the 1948 census results showed that for the census as a whole the mean terminal date was no more than two weeks before the end of the calendar year, although there were more substantial variations in a few industries.

⁽¹⁾ Preliminary estimates based on incomplete returns are published by the Board of Trade. Thus the *Board of Trade Journal* for 31st December, 1955, included such estimates from the Census of Production for 1954, derived from returns covering 70 per cent. of the employment and number of establishments within the census field.

Appendix III

Summary of terms used in Inland Revenue data

Inland Revenue statistics provide the main source of information on both personal and corporate incomes. The following summary definitions and explanations of the Inland Revenue system are given for reference.

Income tax

Income is charged to tax under five Schedules according to the source from which it arises.

Schedule A: Income from the ownership of land, buildings and other hereditaments.

Schedule B: Income from the occupation of lands. Profits arising from lands occupied for farming or other commercial use have, for the years 1949-50 onwards, been wholly assessable under Schedule D.

Schedule C: Interest on certain British, foreign and Dominion Government securities.

Schedule D: Profits and income grouped under the following six "Cases":—

Case I. Profits of a trade.

Case II. Profits of a profession or vocation.

Case III. Interest (except interest charged under Schedule C), discounts, and certain profits from lands.

Case IV. Income from securities out of the United Kingdom (e.g. interest on debentures of a foreign company).

Case V. Income from other possessions out of the United Kingdom (e.g. dividends from ordinary shares in a foreign company).

Case VI. Income not charged under any other Case of Schedule D or under any other Schedule.

Schedule E: Income from an office, employment or pension.

The income charged under Schedule A is determined by reference to the annual rent at which the property is, or could be, let. This figure is normally fixed once every five years, but the last revaluation was, in fact, made in 1936. Where property is actually let at a rent which exceeds the Schedule A assessment, the "excess rent" is charged under Case VI of Schedule D. If, over the past five years, the average expenditure on repairs, maintenance and insurance exceeds the statutory deduction allowed in the assessment, a claim may be made for relief for "excess maintenance".

The income charged under Cases I and II of Schedule D is normally the profit made in the traders' accounting year ending in the preceding year of assessment. Income charged under Cases III-V is normally that arising in the preceding year of assessment, while income under Case VI is generally the actual income of the year of assessment. There are, however, exceptions under all Cases, applying when a business is started or discontinued, or when some other source of income is acquired or disposed of.

The "year of assessment" for income tax purposes runs from 6th April in one year to 5th April in the next. This period is referred to as the "income tax year" to distinguish it from the "financial year"—ending on 31st March—which is the period used for the accounts of the Central Government.

As far as possible, income tax is deducted at the source and collected by the Inland Revenue from the payer rather than from the recipient of the income. Thus tax under Schedule C is deducted by the Bank of England from payments of Government interest, tax on debenture interest and on company dividends is deducted by the company making the payment and tax on wages and salaries is deducted by the employer under the PAYE system. One result of this method is that companies, etc. are charged tax on their full profits before deducting debenture interest or dividends to shareholders. It follows that the apportionment of the total tax collected by the Inland Revenue between different classes of taxpayer is not directly available but must be estimated.

Appendix IV

Real Product Estimates

Details of Indicators and Weights

This Appendix contains full details of the estimates of the gross domestic product at 1948 prices obtained by the production method, a general description of which was given in Chapter III. The first part of the appendix contains explanatory notes on the choice of indicators for particular industries, where some explanation appeared to be called for; the second part contains full details of the indicators and weights used for all industries other than those covered by the Index of Industrial Production, of which full explanations and details are contained in earlier publications⁽¹⁾.

Roman numbers refer to Orders, and Arabic numbers to Minimum List Headings of the *Standard Industrial Classification*.

EXPLANATORY NOTES ON PARTICULAR INDUSTRIES

I. Agriculture, Forestry, Fishing

1. Agriculture and Horticulture

Estimates of gross output and of input, both at 1948/9 prices, are first made for accounting years and are then allocated to calendar years in the proportions 7 : 5; the difference provides the required index of net output at constant prices. The estimates include livestock dealing and veterinary surgery in addition to agriculture and horticulture as defined in the *Standard Industrial Classification*.

XIX. Transport and Communication

220. Railways

For passenger traffic on British Railways, the alternative is available of using either passenger-miles, or receipts deflated for changes in fares, subdivided into three categories. For two of the categories—season tickets and workmens' travel—the two methods give similar results, and passenger-miles are preferred. But the third category includes excursion tickets and cheap day return tickets as well as ordinary travel; as the relative proportions of these different categories have shown substantial changes over a period of years, the two methods in this case give different results. Average receipts per passenger-mile have in fact changed considerably in periods when there have been no changes in fares. For this category, preference is given to the series based on deflated receipts, which reflect the relative changes in the different kinds of travel.

For London Transport railways, the best indicator readily available is the number of car-miles in passenger service, but it is believed that the number of passenger-miles would show similar movements.

223. Goods Transport by road

The index for road goods transport does not allow for variations in the usage of each vehicle over the years. The indices for 1946 to 1948, when petrol rationing was in force, are particularly subject to error on this account.

(¹) Studies in Official Statistics: No. 1, *The Interim Index of Industrial Production*, H.M.S.O., December, 1948, and No. 2, *The Index of Industrial Production*, H.M.S.O., October, 1952.

227. *Air Transport*

This covers not only journeys undertaken in United Kingdom planes, but also the services of airports which are used by foreign airlines. The figures of arrivals and departures do not, however, distinguish between United Kingdom and foreign planes. The weight for air transport on scheduled journeys is therefore split between (i) journeys undertaken in United Kingdom planes, for which the indicator is the number of passenger-miles on scheduled services, and (ii) airport services used by United Kingdom and foreign planes, for which the indicator is the total number of flights to and from abroad, *plus* twice the number of internal flights.

The indicator for chartered planes is the number of miles flown.

XX. *Distributive Trades*

The indicators for wholesale and retail distribution are based on the volume of turnover, weighted by the appropriate distributive margins. Thus the wholesale and retail distribution of food are represented by indices of household consumption of food, weighted by estimated distributive margins of main classes of food. The distribution of most other consumer goods is treated in the same manner.

Wholesale dealing in materials is represented where possible by indices of deliveries, and otherwise by indices of production or consumption, of the various materials. Distribution for export is represented by indices of the volume of United Kingdom exports and re-exports.

XXI. *Insurance, Banking and Finance*250 (1). *Insurance*

Life assurance covers two types of activity by insurance companies:

(a) the granting of death cover for which an appropriate indicator is the total sum assured, deflated by a general price index;

(b) the holding and administration of savings until the policies mature, for which an appropriate indicator is the total amount of funds held by companies, deflated by a general price index.

The cost of these activities is met by that part only of the premium which forms part of final expenditure, the rest being the savings. In accordance with the principles outlined above (see page 37), death cover is provided when the premiums are payable, irrespective of when death occurs.

The total weight is divided equally between the two activities mentioned. Although this allocation is arbitrary, in practice it is not important, since the two indicators move fairly closely together. The total sum assured, used in the indicator for (a), includes sums assured under endowment policies, which usually provide death cover as well as being a method of saving; it is not possible to separate the sums assured between these two parts.

Industrial life assurance is somewhat similar, but in this case no choice is available and the total of funds held, deflated by a general price index, is used as a single indicator for both activities.

Insurance of a motor car, or other vehicle, provides the owner with "cover" against certain risks. As explained in Chapter III (page 37), output is measured at the production boundary, i.e. at the point of final purchase, irrespective of when the actual goods and services are consumed. Accordingly, the insurance company provides a service during the year in respect of which the premium is paid, whether the vehicle is damaged during the year or not. If, during the year, the vehicle suffers damage which is covered by the insurance policy, the output of the firm undertaking the repair will be increased, but the input of the insurance company will be increased

by the same amount and their combined output will remain constant. As repair work is covered elsewhere, the indicator for the net output of insurance companies is the total premiums in respect of the year *less* claims paid during the year, deflated by a general price index.

Insurance of buildings, stocks and other property against fire is somewhat similar to the insurance of vehicles, although buildings, including private dwellings, and stocks are regarded as capital. In accordance with the principles set out in Chapter III (see page 37), the policy holder obtains the same service each year, irrespective of whether his property suffers damage by fire during the year or not. When a house suffers damage by fire, the input of the insurance company goes up, and its net output goes down; the net output of the insurance company, *plus* the gross output of the builder in re-building the house, remains constant.

Fire insurance premiums paid by businesses are part of their operating expenses and do not contribute to depreciation. Fire insurance premiums paid by private individuals are included partly in consumers' expenditure, and partly in investment (the rebuilding of houses from claims paid).

The work of re-building houses, factories, furniture, etc. which suffer damage by fire, is included in the estimated output of the building, manufacturing, etc., industries. The indicator for the output of insurance companies is therefore the total premiums for the year, *less* claims paid during the year, on all such insurance, deflated by an appropriate price index. Claims paid in money and not used to buy goods are not part of output.

Similar treatment is applied to marine, aviation, transit, employers' liability and other miscellaneous insurance.

250 (2) and (3). *Banking and Finance*

The indicators for National Savings and investment in building societies represent the services involved in the administration of the savings in question; they deliberately ignore changes in the volume of turnover, since a specific charge is not made for this additional service (except to the extent that lower rates of interest are obtainable on short-term investments). The indicator for National Savings Certificates, for example, is simply the total amount of savings, divided by a general price index.

XXII. *Public Administration and Defence*

260 (1) to (4). *H.M. Forces and Women's Services*

The alternative indicators which are available are either total pay and allowances deflated for changes in rates of pay and of allowances, or changes in manpower employed. There is not much to choose between these two methods and an index of manpower is used. The main problem in constructing this index is that separate figures of the numbers in each rank are not available. It is possible to allow only for changes in the ratio of the total number of officers to the total number in other ranks, the arbitrary assumption being made that one officer is equivalent to three of other ranks. Allowance has also been made for changes in the ratio of National Service men and women to regulars, on the arbitrary assumption that a National Service man is equivalent to four-fifths of a regular.

265 and 260 (6). *Local Government Service and remainder of National Government Service*

The maintenance of law and order (excluding the police) and services to persons are represented by the nearest available approximation to direct measures of output. The remainder consists mainly of Central Government and local authority administration, for which it is virtually impossible to obtain direct measures of output. Local authority administration is represented by numbers employed and Central Government administration by an index of wages and salaries deflated for changes in rates of pay.

The national insurance pensions scheme is compulsory and the contributions of the insured are a form of direct tax; those of employers are also a form of tax on labour. But the scheme is a form of insurance and the regular contributions of insured persons, employers and the Exchequer cover the full cost of the pensions (except that, in the case of persons who entered the insurance scheme only a few years before retirement age, the remainder of the cost is met by the Exchequer at the time the pensions are paid). The payment of contributions brings entitlement to certain pension rights. By analogy, therefore, with private insurance, the appropriate indicator is the number of insured people who are paying contributions, irrespective of the number in receipt of pensions. The same reasoning applies to widows' pensions, maternity benefits, and death grants. The indicator for the administration of each of these benefits is therefore the number of insured people who pay contributions for the particular type of benefit.

Unemployment insurance may be regarded as a benefit to everyone in the labour force who is so insured, whether employed or seeking employment. This benefit is, however, associated with the anticipated risk of becoming unemployed, which may be assumed to vary with the percentage rate of unemployment at any given time. Thus an appropriate indicator is the number in the labour force multiplied by the percentage unemployed, i.e. the average number unemployed during the year.

Similar reasoning applies to sickness benefits provided under national insurance, except that the *anticipated* risk of becoming ill at any given time must be only partly dependent on, and presumably varies less than, the proportion of people who are ill at that time. It is reasonable, therefore, to accept a compromise and the weight representing the administration of sickness benefits is shared between two indicators, namely, the number of people insured and the number of claims for benefit.

Similarly, insurance against industrial injuries has its weight apportioned between the number of people so insured and the number receiving benefit.

XXIII. *Professional Services*

271. *Education*

It is scarcely possible to obtain a direct measure of the amount of education which pupils receive. The numbers passing the various examinations, weighted by their relative importance, would for instance be a very crude and imperfect measure, since education is not directed exclusively towards examination results. For primary and secondary education there is little information beyond the numbers of teachers and of pupils. If only the number of pupils were used, no allowance would be made for changes in the quality of teaching, which must depend partly on the average size of classes. If only the number of teachers were used the indicator would not be affected by changes in the number of pupils receiving education. A compromise is therefore adopted and the weight is equally divided between the number of pupils and the number of teachers.

273. *Medical Services*

The principles involved in measuring the output of government services, the costs of which are not met by specific charges to the consumer, are discussed above (see page 38). In such cases, the general aim is to measure the output of the final services to the people who benefit from them, not the amount of labour, materials and equipment used up in providing the services. Consistently with these principles, the output of doctors and hospitals in the National Health Service should be measured in terms of the medical attention given to patients. During illness, therefore, the services provided increase, and there are corresponding reductions in the implied prices. The method applied to national and private insurance, which would mean that output was unaffected by whether people were ill or not, is not applied to the National

Health Service, since the major part of the cost of the service is met directly by the Exchequer, and only a relatively small part by a contribution, which does not vary with changes in the total cost, from the National Insurance Fund; furthermore, the benefits of the National Health Service are available to all members of the community, whether they pay national insurance contributions or not.

The value of the services provided depends on a great many factors, which include the incidence of illness; the time, trouble and skill devoted to their patients by the doctors; the equipment, and the services of any assistants, used by the doctors; and, in the case of the hospital services, everything which the hospitals provide, including X-ray examinations, consultants' and nurses' services, medicines, artificial limbs, food, beds and recreation. Such services, it is hardly necessary to say, are peculiarly difficult to quantify.

At present there are no data showing changes in the quantity of services rendered by doctors, to which the nearest approximation which is available is simply the total number of doctors in the National Health Service. To the extent that they are kept fully occupied, as doubtless many of them are, this measure is not, perhaps, as crude as it seems.

Quantitative information about the services provided by the National Health Service hospitals is also very sparse; by the same reasoning that applies to education, the weight is equally divided between the number of patients and the number of staff.

Indicators and weights used in estimating
the gross domestic product at constant prices by the production method

Standard Industrial Classification		Weight per £,000	Indicator	Unit	Remarks
Order	Minimum List Heading	Industry			
1		Agriculture, Forestry, Fishing			
	1	Agriculture and horticulture	Net output of agriculture at 1948-1949 prices.	Value deflated	See page 353. This item includes certain related activities (dealing, part of Minimum List Heading 240; veterinary surgery, part of Minimum List Heading 279).
	2	Forestry	Forest area, Great Britain Area planted, Forestry Commission Hardwood production Pirwood and softwood production	Thousand acres Million cubic feet Thousand standards	Representing care of woodlands
	3	Fishing	Landings of British taking: Prize white fish Flat fish Coarse round fish Cod Haddock Hake Whiting Herrings All other fish Imports from British fisheries: Whale oil (unrefined) Other fish and marine animal oil (unrefined) including liver oil.	Thousand tons	Great Britain
			0-15 0-30 0-13 0-88 0-39 0-20 0-12 0-32 0-32 0-43 0-05		

II	Mining and Quarrying	36.71	Index of industrial production	Index	See, <i>Index of Industrial Production Studies</i> in Official Statistics No. 2 (H.M.S.O. October 1952).
III-XVI	Manufacturing	355.65			
833332	Building and Contracting	62.45			
XVII	Gas, Electricity and Water	20.25			
XVIII	Transport and Communication	95.67			
XIX	Railways	0.45 0.85 7.56 0.72 6.00 2.06 4.74 1.58 0.50	British Railways passenger traffic: Workmen's tickets Season tickets Ordinary tickets London Transport railways British Railways freight traffic: Merchandise and livestock Minerals Coal and coke Parcels Mail (letters and parcels)	<div> <div> Passenger miles Receipts deflated Passenger car miles </div> <div> Ton miles Receipts deflated Number posted </div> </div>	See page 353
220	Tramway and omnibus service	14.68	{ Consumers' and business expenditure on buses, coaches, trams, trolley buses, taxis and private hire at 1948 prices. }	Expenditure deflated	One parcel is assumed to be equivalent to 30 letters.
221	Other road passenger transport	21.53	Vehicles with carrier's licences	Index	This item includes all "C" licence transport (classified by the <i>Standard Industrial Classification</i> to industry of owner). The index is based on the number of carriers' licences in force, the weights for each type of licence being based on figures in 'The Outlines of the Road Goods Transport Industry' by K. F. Glover (<i>Journal of the Royal Statistical Society, Series A</i> , 1954). Allowance is made for changes in the numbers of vehicles in each unladen weight group. See page 353.
222	Goods transport by road				
223					

Standard Industrial Classification			Weight per £,000	Indicator	Unit	Remarks
Order	Mini- mum List Heading	Industry				
XIX— cont.	...	Roads (not classified)	0-10	Index of road usage by cars and motor cycles	Index	Representing that part of the maintenance and depreciation of roads which is attributable to private users. The weight for the part attributable to commercial users is included in Minimum List Heading 223. The index is based on the Road Research Laboratory's estimates of traffic flows in Great Britain
224	Sea transport Port, river and canal trans- port Harbour, dock, canal com- servancy, etc., service		0-08	Carriers on canals	Net ton-miles Thousand net tons	The proportion of Commonwealth vessels owned by the United Kingdom is used to estimate the proportion of Commonwealth entrances and clearances attributable to United Kingdom vessels. All flags, with cargo and in ballast Representing port services
225			12-46			
226				Ocean going ships and United Kingdom flag tankers entered and cleared at United Kingdom ports		
227	Air Transport		0-50	Vessels arriving and departing in the coastal trade	Thousand net tons	
			6-01	Entrances and clearances in the foreign trade	Thousand net tons	
			0-91	Passenger traffic (scheduled services)	Passenger miles	
			0-38	Mail traffic	} Short ton-miles	
			0-19	Freight traffic		
			0-30	Total flights between the United Kingdom and abroad plus twice internal flights	Number	
228	Postal, telegraph and wireless communication		0-33	Air charter traffic	Miles flown Expenditure deflated	Representing airport services. See page 354.
			6-36	Expenditure on postal services		Air Charter Association members
			0-70 5-48	Expenditure on inland telegrams Expenditure on telephone services		

		0-40	Foreign telegrams	Number	General Post Office and Cable and Wireless. The figures for Cable and Wireless are numbers of words; 15 words are assumed to be equivalent to one telegram.
238	Other transport and communication	0-30	Telegrams handled by cable companies	Number	
239	Storage (partly in Order XX)	0-50	Spirits in bond at 31st March	Gallons	
	Distributive Trades	123-60			
240	Dealing in coal, builders' materials, grain and agricultural supplies	2-64	Coal consumption:	Million tons	Weight transferred to Minimum List Headings 220, 223, 224 and 227
		0-10	Domestic and non-industrial establishments		Representing mustaring of whisky
		0-08	Iron and steel industry		See page 354. Weight includes part of storage.
		1-16	Engineering industry		Great Britain
		0-10	Other industries and miscellaneous		
		0-15	Coastwise and foreign bunkers		
		0-15	Coal shipments to Northern Ireland		
		0-38	Production of ready mixed paints, varnishes and distemper		
		1-83	Deliveries of building materials		
		0-67	Farmers' purchases of feeding stuffs		Representing retail sales
		0-39	Farmers' purchases of fertilisers		Great Britain. Representing dealing in building materials
					At 1948-49 prices. Representing dealing
		0-67	Iron and steel scrap bought in home market by steel works and foundries		Representing dealing in ferrous scrap
		0-10	Consumption of scrap copper, zinc and lead and disposals of secondary aluminium		Representing dealing in non-ferrous scrap
241	Dealing in other industrial materials and machinery	1-54	Deliveries of machinery for home market	Value deflated	Representing dealing. Comprises agricultural machinery, portable power tools, engineers' small tools, internal combustion engines, pumps and pumping plant, fractional horsepower electric motors, refrigerating machinery (all types), office machinery (all types) produced for the home market and imports of office machinery.

242	Wholesale distribution of food and drink Retail distribution of food and drink (excluding catering)	38-54	Index of household expenditure on various items weighted by retail margins	Index	Based on the 10 main groups of household expenditure on food at constant prices shown in Table 22 of the Blue Book, 1955. The item includes Ministry of Food (now part of Ministry of Agriculture, Fisheries and Food) activities which are part of Minimum List Heading 260
243					
244	Wholesale distribution of non-food goods Retail distribution of non-food goods Retail distribution of confectionery, tobacco and newspapers	3-66	Other personal expenditure on food	Value deflated	Representing distribution of goods for export
245		2-48	Volume of United Kingdom exports	Index	
246		0-10	Volume of United Kingdom re-exports	Value deflated	Representing distribution of goods for re-export
			Consumers' expenditure on:		Representing distribution
		6-04	Cigarettes		
		0-87	Pipe tobacco, cigars and snuff		
		0-67	Fuel other than coal, gas and electricity		
		7-20	Furniture and furnishings		
		4-61	Hardware, radio and electrical goods		
		1-54	Other household goods		
		2-49	Footwear		
		17-47	Other clothing		
		0-96	Books		
		2-10	Newspapers		
		1-06	Magazines, etc.		
			Registration of new cars:	Number	Representing distribution. Total registrations are divided into capacity groups in proportion to the numbers produced in each group for the home market
		0-05	1,600 c.c. and under		
		0-06	Over 1,600 c.c. and not over 2,200 c.c.		Representing distribution. Total registrations are divided into capacity groups in proportion to the numbers produced in each group for the home market
		0-02	Over 2,200 c.c.		
			Registrations of new goods vehicles:	Number	Representing distribution. Total registrations are divided into capacity groups in proportion to the numbers produced in each group for the home market
		0-02	Under 15 cwt.		
		0-10	15 cwt. and over		Representing distribution
			Registrations of new motor cycles and tricycles	Number	
		0-01			

Standard Industrial Classification			Weight per 1,000	Indicator	Unit	Remarks
Order	Minimum List Heading	Industry				
XX— cont.	244-246 —cont.		0.37	Deliveries of petroleum products for inland consumption	Index	Representing distribution. Com- prises deliveries of motor spirit, gas/diesel oils and fuel oil in gallons weighted in the propor- tions 4 : 2 : 1 Based on the turnover of 4 large firms deflated by an index of average earnings in the motor vehicle industry Representing distribution
			0.32	Distribution of motor vehicle parts and accessories	Index	
			0.96	Consumers' expenditure on flowers and garden seeds	Value deflated	
			13.53	Consumers' expenditure on chemists' goods, other goods, other recrea- tional equipment and bicycles	Value deflated	Representing distribution. The specific items comprised are listed on pages 121-125
			0.58	National Health Service prescrip- tions	Number	Representing distribution of drugs
			53.57			Except where otherwise stated, the de- flator used in this Order is the con- sumers' price index (see page 104)
		Insurance, Banking and Finance				See pages 354-355
	250	Insurance, banking and finance: (1) Insurance	1.17 1.17 2.33 0.27	United Kingdom companies: Life assurance—policies in force Life assurance—life and annuity funds held (ordinary business) Industrial assurance—funds held (industrial business) Accident insurance — premiums paid (less reinsurance)		Average of figures at beginning and end of year Deflated by Ministry of Labour's Interim Index of Retail Prices
			2.94	Fire insurance—total premiums less claims paid		
			1.17	Marine, aviation and transit in- surance—total premiums less claims paid		
			0.47	Miscellaneous insurance—total premiums less claims paid	Value deflated	Deflated by an index of prices of all capital goods including stocks
			2.57	Motor vehicle insurance—total premiums less claims paid		Deflated by import and export average value indices

(2) Banking and bill discounting	6-54	Stamp duty on cheques	Value deflated ^a	See page 355 Representing stockbroking
	1-18	London Clearing Bank advances		
	0-46	London Clearing Bank other assets		
	1-06	Amounts invested at mid-year in Post Office Savings Bank and Trustee Savings Banks		
(3) Finance	0-57	Amounts outstanding, National Savings Certificates	Number (average of Wednesdays) Value deflated ... Value deflated	Notional series See page 355 Representing house ownership, occupation and rent collection Deflated by index of rate of duty and by index of the value of property
	1-75	Bargains marked, London Stock Exchange		
	0-82	New capital issues		
	0-12	Investment trusts		
(4) Property owning and managing, etc.	0-06	Building societies:	Value deflated	See page 355 At 1st April in each year Average daily number The index is a weighted average of various classes of action See pages 355-356 At 31st March in each year Representing national insurance benefits; births represent maternity benefit Representing unemployment insurance
	0-35	New advances on mortgage		
	0-29	Balances due on mortgage		
	27-18	Total liabilities		
Public Administration and Defence	1-00	Consumers' expenditure on rent at constant prices	Value deflated	See page 355 At 1st April in each year Average daily number The index is a weighted average of various classes of action See pages 355-356 At 31st March in each year Representing national insurance benefits; births represent maternity benefit Representing unemployment insurance
	0-10	Stamp duty on land, houses and leases		
	72-73	Valuations for death duty		
	26-96	Strength of Armed Forces and Women's Services		
National Government Service:	7-85	Civilians employed on defence work	Index Number Number Index Number Number Number Number	See page 355 At 1st April in each year Average daily number The index is a weighted average of various classes of action See pages 355-356 At 31st March in each year Representing national insurance benefits; births represent maternity benefit Representing unemployment insurance
	0-28	Maintenance of law and order:		
	0-72	Prisons—Inmates		
	0-49	Courts of Justice—cases tried		
(5) Defence Departments	0-49	Services to persons:	Number Number Number Number	See page 355 At 1st April in each year Average daily number The index is a weighted average of various classes of action See pages 355-356 At 31st March in each year Representing national insurance benefits; births represent maternity benefit Representing unemployment insurance
	0-50	War pensions in payment		
	0-49	Claims for sickness benefit <i>para</i> 90 per cent. of births		
	0-57	Numbers insured Classes 1 and 2		
(6) Other	0-49	Persons registered as unemployed	Number Number Number Number	See page 355 At 1st April in each year Average daily number The index is a weighted average of various classes of action See pages 355-356 At 31st March in each year Representing national insurance benefits; births represent maternity benefit Representing unemployment insurance
	0-57			

Standard Industrial Classification		Weight per 1,000	Indicator	Unit	Remarks
Order	Mini- mum List Heading	Industry			
XXII— cont.	260— cont.	National Government Service:—cont.	<p>Numbers insured, Classes 1, 2 and 3</p> <p>Number of family allowances in payment</p> <p>Number of industrial injury benefits</p> <p>Numbers insured, Class 1</p> <p>National Assistance beneficiaries</p> <p>Other National Government Service, wages and salaries</p>	<p>Number</p> <p>Number</p> <p>Number</p> <p>Number</p> <p>Number</p> <p>Index</p>	<p>Representing old age and widows' pensions and death benefits</p> <p>Average of figures at the beginning and end of the year</p> <p>Representing industrial injuries insurance</p> <p>Total wages and salaries of civilian employees of the National Government excluding those engaged in defence, law and order and services to persons, deflated by index of civil service wage and salary rates</p> <p>The index for Order XXIII is used here to represent the Ministries of Health and Education</p>
	265	Local Government Service: (1) Police (2) Fire Service (3) Other	<p>Professional Services, Order XXIII</p> <p>Police, regular and auxiliaries</p> <p>Fire services whole-time strength</p> <p>Expenditure on:</p> <p>Public libraries and museums</p> <p>Sewerage and sewerage disposal</p> <p>Collection and disposal of refuse</p> <p>Baths, etc.</p> <p>Parks, etc.</p> <p>Allotments and smallholdings</p> <p>Land drainage, sea defence and river conservancy</p>	<p>Index</p> <p>Number</p> <p>Number</p> <p>Value deflated</p>	<p>See page 355</p> <p>Great Britain</p> <p>England and Wales. Expenditure interpolated from financial years</p> <p>Rents received, England and Wales</p> <p>England and Wales. Expenditure interpolated from financial years</p>

0.36 0.21	Population of United Kingdom Public lighting—fuel used	Number Index	Representing scavenging Gas (Thous. cu. ft.) <i>plus</i> electricity (hundred kWh) sold to public lighting authorities
0.25 0.10 1.68	Rate collection, expenditure Valuation for rating Emergency services including Civil Defence	Value deflated ... Value deflated	Notional series England and Wales. Expenditure interpolated from financial years Representing upkeep of cemeteries Representing general administration
0.21 0.58	Number of deaths <i>plus</i> a constant Employment in local government service	Index Number	
0.70	Number of local authority houses	Number	Representing housing administra- tion. Expenditure on libraries and public museums is deflated by an index based on the prices of books and average earnings in local government service. In the cases of sewerage and sewage disposal, collection and disposal of refuse, baths, parks, land drainage, sea defence and river conservancy the deflator is based on average earn- ings in local government service
55.47			Included with industries using the services See page 356
5.40 5.40	Primary, nursery and special schools: Pupils on registers Teachers	Number Number	England and Wales
4.29 4.29	Secondary and direct-grant grammar schools: Pupils on registers Teachers	Number Number	England and Wales
2.03	Independent schools: Pupils on registers	Number	Estimated as the difference between the total child population and the number in all other schools, age group 5-14
XXIII	Professional Services Accountancy Education	270 271	

Standard Industrial Classification		Weight per 1,000	Indicator	Unit	Remarks
Order	Minimum List Heading				
XXIII— cont.	271— cont.	Education—cont.	Further education establishments: Student hours Other adult education (part-time): Student terms	Number Number	England and Wales England and Wales. Estimated by adding number of short courses to three times number of tutorial and one-year courses. Interpolated from academic years
		0.51 0.10	Teachers in training	Number	An estimate of the number of teachers attending two-year courses in any one year is obtained by adding the number completing such courses in that year to the number completing such courses in the following year in England and Wales and Northern Ireland, and then adding the numbers completing all other courses in the United Kingdom
		0.20			
		2.03	Students at universities	Number	Great Britain. Full-time, <i>plus</i> one- third part-time students. Inter- polated from academic years England and Wales
		0.10	Juveniles committed to Approved Schools	Number	Representing lawyers' court busi- ness. See item in Order XXII
		1.36	Courts of Justice—cases tried	Index	England and Wales
		0.82 1.23	Grants of probate Stamp duties on land, houses and leases	Number Value deflated	Representing convancing. See item in Order XXI
	272	Law			

273	Medical and dental services	4-90 1-23 5-92	National Health Service Hospitals: Daily average occupied beds Attendances at outpatient and casualty departments Hospital staff	Number Number Index	Covers Great Britain only
		1-23 0-61 5-15	Mental hospitals: Patients suffering from mental deficiencies (under care) Mental defectives (under care) General practice: Doctors in Health Service Other National Health services: Attendances at ante-natal, post-natal and child welfare clinics Optical services: Sight tests given Dental services: Courses completed School medical services: Children on the registers of maintained and assisted schools Number of clergy Trade unions; total membership Consumers' expenditure on books	Number Number Number Number Number Index Number Value deflated	See pages 356-357. Part-time staff counted as one-half. Medical and dental, professional and technical, nurses and midwives, and domestic staff weighted 3 : 2 : 1 : 1. Average of figures at the beginning and end of year Average of figures at beginning and end of year See page 357
274 279	Religion Other professional and business services	2-03 0-56 0-31			England and Wales Average of figures at beginning and end of year Representing authors' output
	Miscellaneous Services	72-43			
280 281	Theatres, cinemas, music halls, concerts, etc. Sport, other recreation and betting	4-49 2-79 4-45	Cinema receipts Other entertainment receipts Betting Broadcasting: Home sound programmes Television programmes Overseas programmes	Value deflated Index	Consumers' expenditure at constant prices Estimate of total net losses, deflated by consumers' price index Hours broadcast multiplied by licences held Transmitter hours

XXIV

Standard Industrial Classification		Weight per 1,000	Indicator	Unit	Remarks
Order	Minimum List Heading	Industry			
XXIV— cont.					
	285	Catering, hotels, etc.	7.48 Expenditure on beer at 1948 prices 4.99 Expenditure on wine and spirits by glass, less cost of same in bottles at 1948 prices 15.56 Expenditure at 1948 prices	Index Index Index	For serving of beer For serving of wines, spirits, etc. Representing all other services
	286 287 288 290 291 299	Laundries Dry cleaning, job dyeing, carpet beating, etc. Hairdressing and manicure Private domestic service (resident) Private domestic service (non-resident) Other services	5.68 1.60 3.49 12.57 Deaths 1.20 0.90 0.05 0.85 5.49 Voluntary social services Political organisations Consumers' expenditure on chimney sweeping and window cleaning All other services	Value deflated Number " " Number Value deflated Index	Representing funeral direction Assumed constant Assumed series Assumed series
Unallocated		Banking services to industry not deducted as input	9.98 Estimated output of banking at 1948 prices, as for Order XXI	Index	A deduction, representing input of banking services to industry as a whole (see page 41)

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